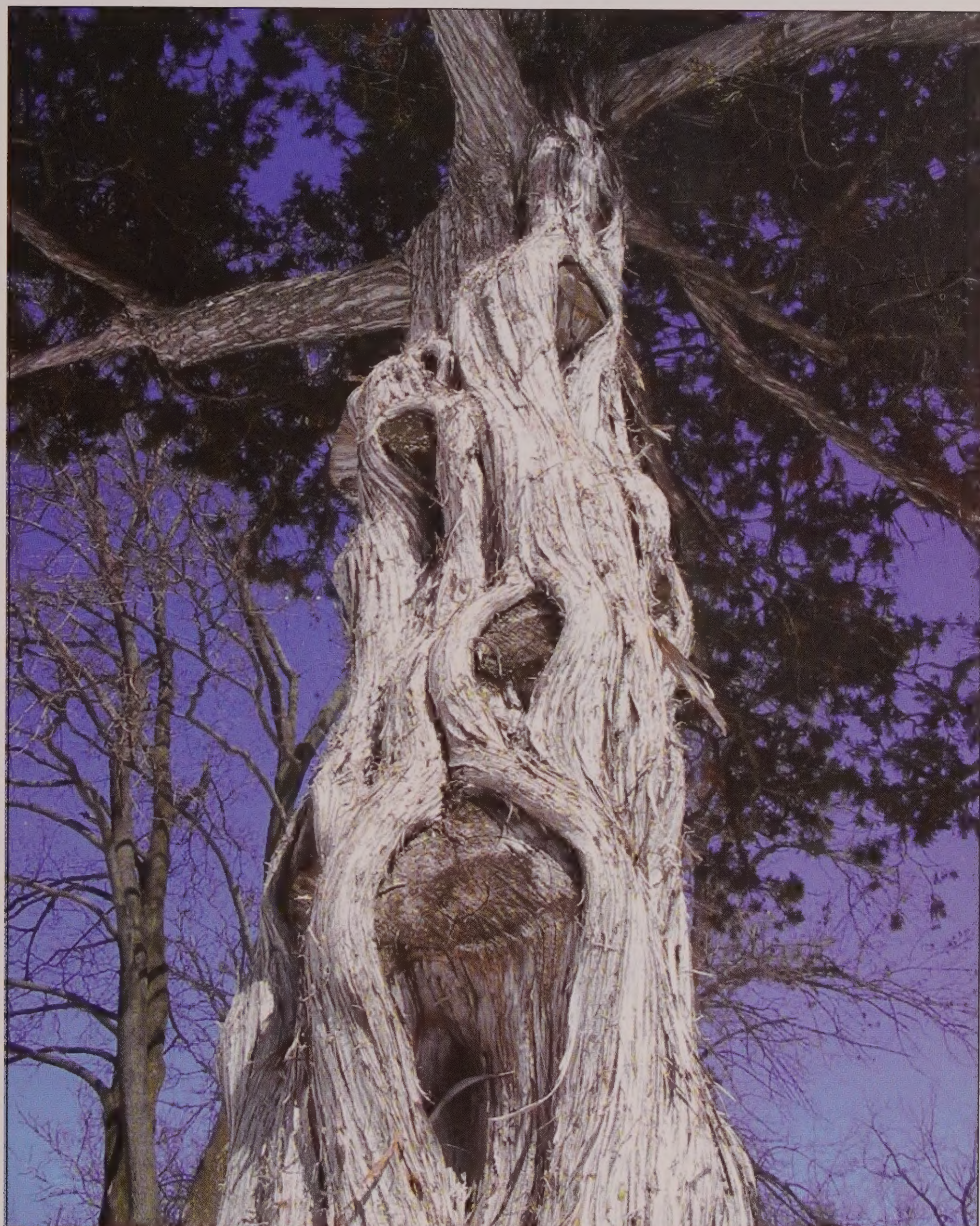
Catalogue no. 75-001-XPE

PERSPECTIVES

ON LABOUR AND INCOME

SPRING 2011
Vol. 23, No. 1

- Why has the gender wage gap narrowed?
- Seniors' self-employment
- Retirement, health and employment among those 55 plus
- Inside the labour market downturn



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Spring 2011 Vol. 23, No. 1

PERSPECTIVES ON LABOUR AND INCOME

Departments

Articles

The gender gap in hourly wages narrowed between the late 1980s and the late 2000s. This article analyses the narrowing wage gap according to the changing characteristics of men and women in paid work, the changes in pay received for those characteristics, and the extent to which who works in each period affects the results.

A substantial proportion of working seniors are self-employed. This article uses census data to study self-employment among senior men and women. Trends in self-employment rates and categories are presented, along with occupational and industrial profiles. In addition, 2006 data are used to study factors associated with self-employment.

This study examines four distinct states of retirement among older Canadians: fully retired; partially retired; previously retired but returned to work; and never retired. Using the 2009 Canadian Community Health Survey (CCHS) – Healthy Aging, it presents the socio-economic characteristics of each group, and discusses their differing work patterns and health.

Perspectives on Labour and Income (Catalogue no. 75-001-XPE; aussi disponible en français: *L'emploi et le revenu en perspective*, nº 75-001-XPF au catalogue) is published quarterly by authority of the Minister responsible for Statistics Canada. ©Minister of Industry 2011. ISSN: 0840-8750.

PRICE: CAN $20.00 per issue, CAN $63.00 for a one-year subscription.

Shipping charges outside Canada:

	Single issue	Annual subscription
United States	CAN $ 6.00	CAN $24.00
Other countries	CAN $10.00	CAN $40.00

All prices exclude sales taxes.

Indexed in the *Canadian Index, Canadian Periodical Index, P.A.I.S. International, Sociological Abstracts, Econlit, Canadian Business and Current Affairs* and *Employee Benefits Infosource.* Also indexed in French in *L'Index de l'Actualité* and *Point de Repère*.

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ON LABOUR AND INCOME

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Highlights

In this issue

Why has the gender wage gap narrowed? ... p. 5

- The gap in pay between men and women can be examined in a number of different ways. Many studies focus on the earnings gap—the difference in the amount of pay received weekly or yearly. Yet men and women, on average, work a different number of hours in these periods. To account for the difference in working time, this study focuses on the wage gap—the difference in the amount of pay received per hour of work.
- The gender gap in hourly wages narrowed by 7.6 percentage points between the late 1980s and the late 2000s. This study attributes the narrowing wage gap to three key factors.
- First, the growth in women's relative wages outpaced that of men. This implies that the changing composition of the labour force and changes in how the labour market compensates workers played a role in narrowing gender wage gap.
- Second, men and women entering today's labour market are more alike in terms of characteristics and wages than they were in the past. Thus as younger workers 'replace' older workers, the wage gap declines simply because the gap is smaller in the new cohorts than in those that preceded them.
- Third, part of the decrease in the gender wage gap is related to the fact that men and women's wages did not diverge as they aged to the same extent as in the past.

Seniors' self-employment ... p. 17

- The self-employed comprise a substantial portion of the employed labour force among seniors. Among those who had a job in 2006, 44.1% of men and 28.6% of women were self-employed.
- The majority of self-employed seniors were unincorporated. About two-thirds of self-employed men and three-quarters of self-employed women did not own a separate business entity.
- One-third of self-employed men were in primary goods and one-third of self-employed women in consumer services industries. Self-employed seniors were also concentrated in a few occupations. The most frequently reported occupation was farmer or farm manager, accounting for 24.2% of self-employed men and 17.2% of self-employed women.
- Senior men and women with higher family income from sources other than individual employment earnings were more likely to be self-employed as opposed to being paid employees.
- Seniors who had another self-employed family member were more likely to be self-employed themselves than those who had another family member working as a paid employee.
- Immigrants who arrived in the preceding 10 years were less likely to be self-employed than more established immigrants or the Canadian-born.
- Those with activity limitations were more likely to be self-employed than senior workers who reported no limitations.

Retirement, health and employment among those 55 plus ... p. 29

- This study examines four distinct states of retirement among Canadians age 55 and older: fully retired; partially retired; previously retired but returned to work; and never retired.

- Almost 60% of the fully retired belonged to the two lowest income groups compared to less than 30% of those who had never retired. Retirees also reported poorer health than other groups even after controlling for age differences.

- The partially retired were the most likely to report that they retired because they were financially able to do so. Accordingly, two-thirds of the partially retired worked less than 30 hours per week compared to 11% of the never-retired and 22% of returnees.

- Those who had returned to work were the most likely to be in the top income bracket, corresponding to their high average level of education. Nevertheless, one-half reported that financial considerations contributed to their decision to return to work.

- Almost 40% of never-retired workers reported that their financial plans for retirement were less than adequate. A larger proportion of this group still had a mortgage on their homes compared to the fully and partially retired.

- Immigrants and visible minorities were over-represented in the never-retired group.

Inside the labour market downturn ... p. 39

- The Canadian labour market lost more than 400,000 jobs during the first 12 months of the recent downturn.

- Although initial job losses were steeper in the recent downturn, employment rebounded earlier than in the downturns of the 1980s and 1990s.

- As in previous downturns, the number of working-age people without a job increased. Between October 2008 and October 2010, the number of non-workers increased by 800,000. Increases occurred in both the unemployed population (341,000) and individuals not participating in the labour force (458,000).

- Changes in the unemployed population were not just due to layoffs. Although the number of layoffs increased by 30% over the period, other categories, like new entrants and re-entrants coming back after a period of labour market inactivity, also increased (33%). In the previous downturns, layoffs made up a larger portion of the unemployment increase.

- The growth of the non-participant population was mainly attributable to increases in the number of students and, to a lesser degree, the number of seniors. Although the number of discouraged searchers increased, that group consistently represented less than 1% of non-participants.

- Even though employment rebounded sooner than in earlier downturns, the number of individuals who worked part time but who would have liked to work full time increased by 20% over the period. As of October 2010, the Canadian labour market still had 113,000 fewer people working full time than in October 2008.

- Alternative measures of unemployment that incorporate discouraged searchers, the marginally attached and involuntary part-timers can be calculated. Regrouping these three populations with the unemployed population would boost the unemployment rate by about 25%, but would produce a rate moving in tandem with the standard unemployment rate.

What's new? ... p. 53

- **From Statistics Canada**

  Cohort differences in education and earnings of childhood Immigrants

  Highly educated immigrants in the Canadian and U.S. labour markets

  Paid work among women in Canada

  Survey of Household Spending

  Labour productivity in the provinces and territories

- **From other organizations**

  Who creates jobs? Small companies or young companies?

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  From data to decision-making: Socio-economic conference

Why has the gender wage gap narrowed?

Marie Drolet

The fact that men continue to earn more than women is not new but it is an issue that demands frequent re-examination. The female-to-male earnings ratio—based on the annual earnings of full-year, full-time workers—has held steady at 0.72 since the early 1990s (Statistics Canada 2009). This contrasts with the preceding 20 years during which there was a steady, if modest, narrowing of the earnings gap (Baker et al. 1995). Does this mean that progress towards equal pay has stalled?

Restricting male–female comparisons to full-year, full-time employees does not ensure that equal quantities of work are being compared. That requires a measure that includes both pay and a precise unit of work: hourly wages. On an hourly wage basis, the gap in pay between full-time women and men closed by more than 5 percentage points from the early 1990s to the late 2000s (Baker and Drolet [forthcoming]).[1]

The main purpose of this article is to examine the factors that contributed to the narrowing of the wage gap (see *Data sources and definitions*). This article first shows how the relative position of women in the labour market has changed since the 1980s. Next, changes in the wages *among* men and *among* women are examined before changes in the wage gap *between* men and women are addressed. The core analyses estimate the effects of changes in the relative characteristics of male and female workers, the compensation they receive for these characteristics, and labour force participation relative to the evolution of the wage gap. Finally, whether the changing labour market participation of women affects measurement of the wage gap is addressed by way of a selection model.

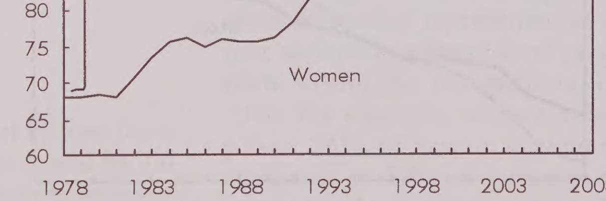
Women in the labour market

Of women between the ages of 25 and 54, 4 out of 5 participated in the labour market in 2009. That year, women accounted for just over one-half of all employees. But it is the changing *relative position* of men and women in the Canadian labour market that can be linked to shifts in their labour market outcomes (namely wages).

Job tenure is a case in point. The gender difference in 'in-progress'[2] job tenures fell from 33.1 months in 1978 to 6.7 months in 2008 (Chart A). This is due to an increase in average tenure among women: from 68.1 months in 1978 to 92.7 months in 2008—a difference of about 2 years. Alternatively, women were more likely to be in jobs that just started (1 to 3 months tenure) than were men until the early 1990s. After that point there was no appreciable gender difference in the proportion of new starts (Chart B).

The educational attainment of women has been rising in recent decades and now surpasses that of men (Chart C). For example, the proportion of women

Chart A Average job tenure



Source: Statistics Canada, Labour Force Survey, 1978 to 2008.

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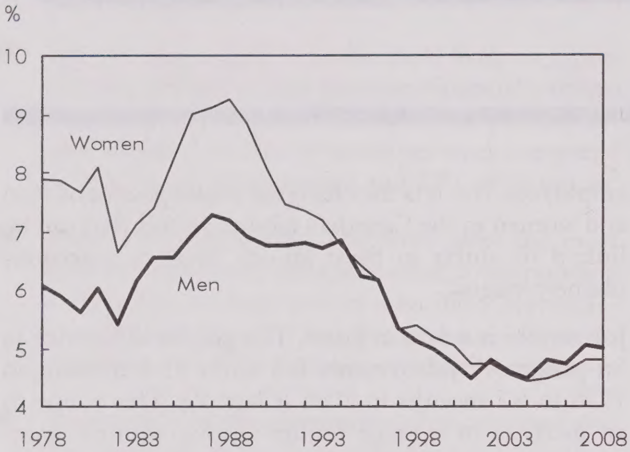
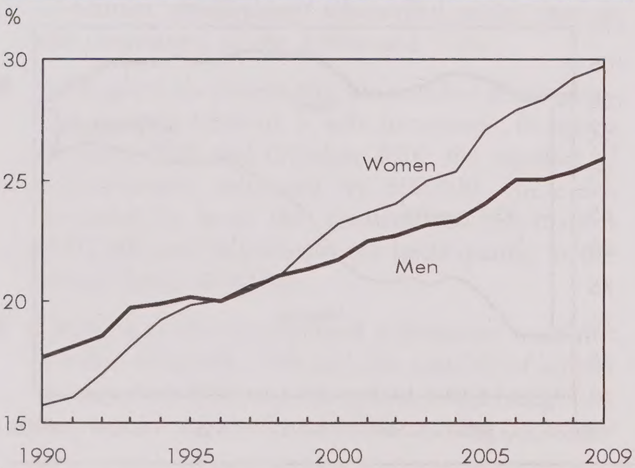
Chart B Proportion of jobs considered 'new start' (job tenure 1 to 3 months)



Source: Statistics Canada, Labour Force Survey, author's calculations, 1978 to 2008.

age 25 to 54 in the labour force that held a university degree rose from 15.7% in 1990 to 29.3% in 2008. The corresponding numbers for men are 17.7% and 25.3%.[3] In 2008, 62% of undergraduate degrees and 54% of graduate degrees were granted to women.[4]

Chart C Proportion of labour force with a university education



Source: Statistics Canada, Labour Force Survey, 1990 to 2009.

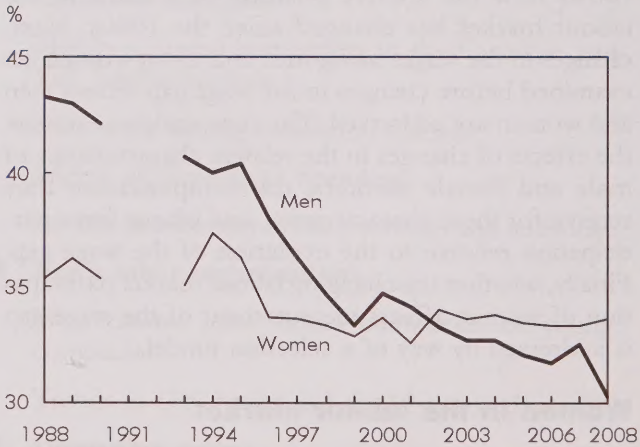
Structural changes in the Canadian economy—like a shift away from manufacturing jobs—had a disproportionately larger impact on the unionization rates of men. As a result, the male–female unionization gap disappeared. In fact, in recent years the proportion of women in unionized jobs[5] has been higher than the corresponding figure for men (Chart D).

Women's wages grew faster than men's

Before changes in wage differences *between* men and women over time are addressed, changes in the relative hourly wages *among* men and *among* women must be documented separately (Chart E). On average, women's real wages increased by 11.6% between 1988 and 2008. While increases occurred across all age and wage groups, the most dramatic improvement was among women age 45 to 49 (17.8%) and those at the higher end of the wage distribution (16.0%).

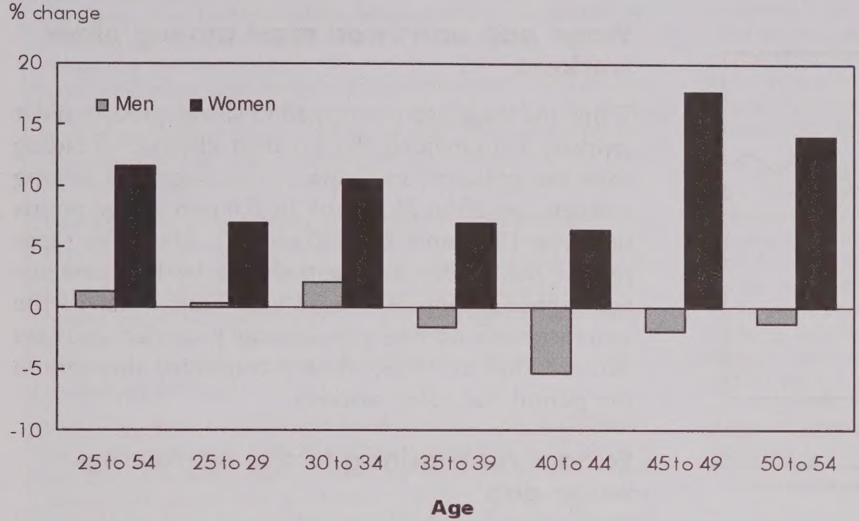
The situation among men is quite different. Overall, men's real wages edged up by 1.3% between 1988 and 2008. However, changes were not consistent across age and wage groups. On average, men age 35 and over and men at the lower end of the wage distribution saw their real wages decline between 1988 and 2008.

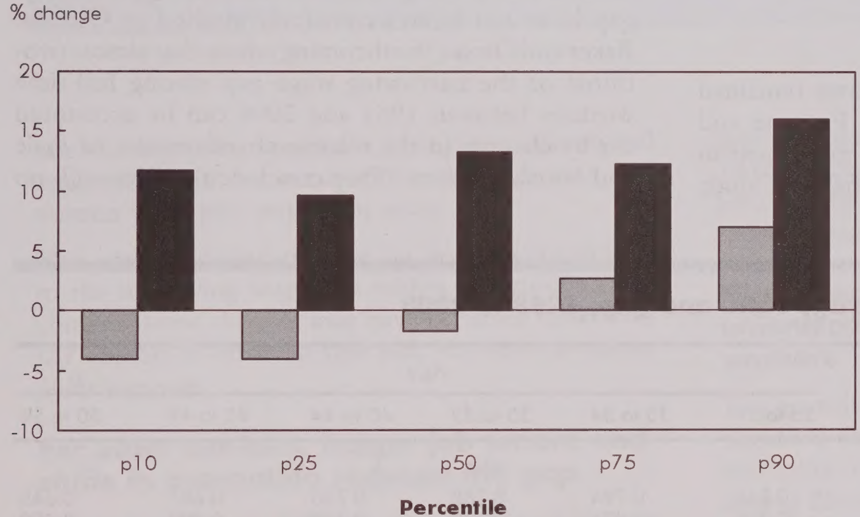
Chart D Unionization rates of workers age 25 to 54



Sources: Statistics Canada, Labour Market Activity Survey, 1988 to 1990; Survey of Labour and Income Dynamics, 1993 to 1997; Labour Force Survey, 1998 to 2008.

Chart E Percentage change in real hourly wages of 25- to 54-year-olds, 1988 and 2008, by sex





Sources: Statistics Canada, Labour Market Activity Survey, 1988; Labour Force Survey, 2008.

Unadjusted wage gap narrowed

The ratio of women's to men's average hourly wages (Chart F) rose from 0.757 to 0.833. In other words, the unadjusted wage gap narrowed by 7.6 percentage points. The gap converged by 5.4 percentage points between 1988 and 1998 and then by 2.2 percentage points the following decade. This is consistent with trends in wage ratios of full-time workers reported in Baker and Drolet (forthcoming).

Wage gap narrowed at all levels of pay

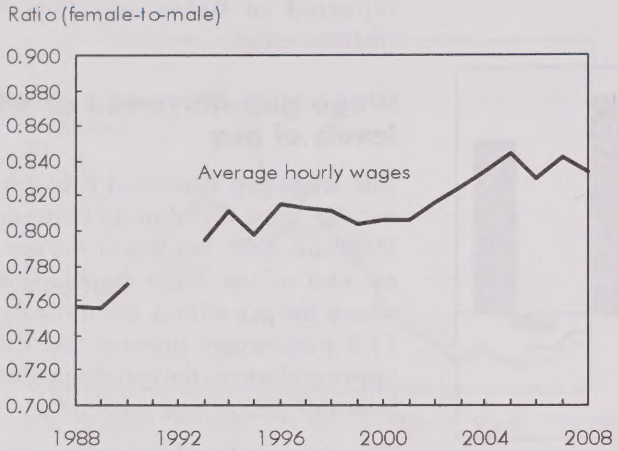
The wage gap narrowed throughout the wage distribution between 1988 and 2008, but it is at the lowest end of the wage distribution where the gap shrank the most (by 11.5 percentage points) and the upper end where the gap shrank the least (6.7 percentage points).[6]

That the gap shrank the most at the lower end of the pay scale corresponds to other results. Between 1988 and 2008, the gap shrank substantially among part-time workers (by 14.1 percentage points) and among workers in clerical occupations (by 12.1 percentage points).

Most female-dominated occupations, like those in health and education, had relatively small wage gaps in 1988 and experienced little change over the period. The exception is clerical occupations—with a wage gap of 24% that was halved by 2008.

Although women dramatically increased their representation in high-wage occupations like management, the wage gaps within these occupations are clearly larger than average. This is not surprising since increasing representation is first apparent in lower-level positions within the occupations. In 2006, for example, women comprised 26% of senior managers compared to 37% of managers at other levels (Statistics Canada 2007).

Chart F Gender wage ratio among workers age 25 to 54



Source: Author's calculations, hourly wage ratios based on data from various sources (see text).

The wage gap among university graduates remained at 16% over the 1998 to 2008 period. Frenette and Coulombe (2007) attribute the lack of movement in the gap to persistent differences in the fields of study chosen by men and women. Women continue to outnumber men in education and the humanities, while men outnumber women in mathematics and engineering.[7]

Wage gap narrowed most among older workers

While the wage gap converged in all age groups, older workers experienced the greatest change.[8] Reading *down* the columns in Table 1, the wage gap among workers age 25 to 29 shrank by 5.6 percentage points between 1988 and 2008 (Table 1). Over the same period, the gender wage gap shrank by 16.2 percentage points among 50- to 54-year-olds. Most of the convergence of the gap among younger workers occurred before 1998, while it continued throughout the period for older workers.

Factors contributing to the narrowing wage gap

Factors contributing to the decline in the gender wage gap have not been extensively studied in Canada. Baker and Drolet (forthcoming) show that almost two-thirds of the narrowing wage gap among full-time workers between 1981 and 2008 can be accounted for by changes in the relative characteristics of male and female workers. They conclude that although no

Table 1 Female-to-male hourly wage ratio and gap, 1988 to 2008

		Age					
	All	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54
				ratio			
1988	0.757	0.846	0.794	0.768	0.736	0.681	0.645
1993	0.794	0.905	0.886	0.772	0.762	0.700	0.709
1998	0.811	0.901	0.851	0.805	0.808	0.750	0.749
2003	0.825	0.920	0.868	0.843	0.804	0.768	0.771
2008	0.833	0.901	0.858	0.837	0.825	0.784	0.807
				gap			
1988	0.243	0.154	0.206	0.232	0.264	0.319	0.355
1993	0.206	0.095	0.114	0.228	0.238	0.300	0.291
1998	0.189	0.099	0.149	0.195	0.192	0.250	0.251
2003	0.175	0.080	0.132	0.157	0.196	0.232	0.229
2008	0.167	0.099	0.142	0.163	0.175	0.216	0.193
				change in gap (2007$)			
1988 to 2008	-0.076	-0.056	-0.064	-0.068	-0.089	-0.103	-0.162
1988 to 1998	-0.054	-0.055	-0.057	-0.037	-0.073	-0.069	-0.104
1998 to 2008	-0.022	-0.001	-0.007	-0.032	-0.017	-0.034	-0.058

Sources: Statistics Canada, Labour Market Activity Survey, 1988 to 1990; Survey of Labour and Income Dynamics, 1993 to 1996; Labour Force Survey, 1998 to 2008.

Data sources and definitions

For clarity and consistency, this article refers to the **gender wage gap** although other measures are presented in the tables. The **female–male wage ratio** is calculated by dividing the female wage rate for a particular group or cohort by the male wage rate for the same group or cohort. The wage gap for women is calculated by subtracting the female–male wage ratio from 1.0 and expressing it as a percentage (e.g., .169 = 16.9%). The narrowing (or widening) of the gap is calculated by subtracting the gap in the second period from the gap in the first period.

The data are drawn from the 1988 to 1990 Labour Market Activity Survey (LMAS), the 1993 to 1996 Survey of Labour and Income Dynamics (SLID), and the 1998 to 2008 Labour Force Survey (LFS). The unit of measurement is hourly wages expressed in 2007 dollars. Wages refer to usual wages or salaries before taxes and other deductions. Tips, commissions and bonuses are included and paid overtime is excluded.

Following Baker and Drolet (forthcoming), this study looks at paid employees, age 25 to 54, in their main job in May of the reference year. The age restriction limits the impact of social and economic trends: by age 25 most individuals have completed their schooling,[16] while the trend towards early retirement did not affect those under age 55.[17]

The years 1988, 1998 and 2008 were selected since they occur at roughly comparable points in the business cycle. If women's progress is sensitive to business-cycle fluctuations as suggested by Baker et al. (1995), choosing years at comparable points in the cycle should minimize any business cycle effects and any change in the gender wage gap would represent a structural change. The longer period also allows time for compositional changes to occur.

This study uses a proxy measure of experience based on age. This proxy overstates women's actual labour market experience and deviates further from the actual measure as workers age.[18] The experience gap widens among female workers as they age, partially reflecting the fact that older women were part of a generation that was less inclined to combine work and family than younger women. As long as older female workers in 2008 had, on average, longer work experience than their counterparts in 1988, actual work experience would explain part of the wage gap convergence. The findings of Drolet (2001) suggest that the omitted variable—actual labour market experience—was increasing for women during the period.

one characteristic dominates, changes in educational attainment and the occupations in which men and women work play important roles.

This study adds information on factors contributing to the narrowing wage gap within age groups since compositional changes may have occurred differently for workers of different ages (see *Accounting for changes in the wage gap*).

For older workers, longer job tenure and shifts in occupation reduced the gap

Between 1988 and 2008, the female–male wage gap closed by 16.2 percentage points among 50- to 54-year-olds. The real wages of women age 50 to 54 grew by 23.4% compared to a slight decline in the real wages of their male counterparts (-1.4%). Roughly two-thirds of the narrowing gender wage gap can be explained by compositional changes (Table 2). In particular, older men were less likely to hold management jobs in 2008 (about 14.0%) than their 1988 counterparts (about 20.0%). This shift, combined with the fact that managers generally earn higher wages, accounted for over one-quarter of the decline in the gender pay gap. Changes in job tenure accounted for another 14.6% of the decline in the wage gap. This was driven by a significant increase in the proportion of women holding long-term jobs[9] (14.2 percentage points).

Higher education and declining unionization narrowed gap for younger workers

The growth in real wages of younger women (7.8%) outpaced that of younger men (0.5%) between 1988 and 2008, contributing to the narrowing wage gap among 25- to 29-year-olds. Roughly two-thirds of the narrowing gender wage gap can be explained by compositional changes.

Changes in educational attainment and choice of occupation increased the real wages of younger women. By 2008, 24.1% of younger men and 36.5% of younger women held a university degree. Since education is positively correlated with wages, the increasing educational attainment of younger women accounts for about one-quarter of the narrowing gender wage gap.[10] Younger women also moved away from low-paying occupations—like clerical and sales occupa-

Accounting for changes in the wage gap

For each year (t), men's and women's wage structures (i=m,f) were estimated by the relationship between hourly wages and observed characteristics using ordinary least squares (OLS)

$$lnw_{it} = X_{it}'\beta_{it} + \upsilon_{it} \quad i = m, f \text{ (Equation 1)}$$

where the natural logarithm of hourly wages is the dependent variable, X is a vector of wage-determining characteristics (age, age squared, education [3 groups], part-time, union, married or common law, tenure [6 groups], industry [17 groups], occupation [10 groups], and province [10 groups]);[19] β is a vector of regression coefficients showing the return to each characteristic; and υ is a normally distributed error term. Each coefficient is the percentage change in hourly wage rates associated with a one-unit change in the explanatory variable.

The literature has developed using Blinder-Oaxaca's decomposition procedure that allows for an identification of the proportion of the gender wage gap owing to differences in worker characteristics and a portion owing to differences in the returns to those characteristics as well as differences in the constant term. The decomposition is based on the OLS property that the sample average wage, $\overline{w}$, is equal to the product of the average vector of characteristics, $\overline{X}$, and the estimated regression coefficients $\hat{\beta}$.

The log wage differential for each year (t) can then be expressed as:[20]

$$(\ln \overline{w}_m - \ln \overline{w}_f) = (\overline{X}_m - \overline{X}_f)\hat{\beta}_m + (\hat{\beta}_m - \hat{\beta}_f)\overline{X}_f \text{ [21] (Equation 2).}$$

Following Baker et al. (1995), the change in the unadjusted wage differential over time can be decomposed into a part due to changes in the mean characteristics within the sample and changes in the returns to those characteristics. The change between periods (t-1) and t may be expressed as

$$(\overline{w}_t^M - \overline{w}_{t-1}^M) - (\overline{w}_t^F - \overline{w}_{t-1}^F) = \left[\hat{\beta}_t^M(\overline{X}_t^M - \overline{X}_{t-1}^M) - \hat{\beta}_t^F(\overline{X}_t^F - \overline{X}_{t-1}^F)\right] + \left[\overline{X}_{t-1}^M(\hat{\beta}_t^M - \hat{\beta}_{t-1}^M) - \overline{X}_{t-1}^F(\hat{\beta}_t^F - \hat{\beta}_{t-1}^F)\right] \text{ (Equation 3).}$$

The first component is the change in the wage gap due to changes in the relative mean characteristics across groups weighted at group-specific prices at time t. The second term is the change due to trends in the relative returns of these characteristics across groups, weighted by group-specific period (t-1) means of the explanatory variables.

tions—towards high-paying occupations in health and education, further contributing to the decline in the gender wage gap.

On the other hand, structural changes in the economy had a larger impact on younger men. Younger men experienced a drop in union coverage of 11.3 percentage points. Because unionized workers earn more than non-unionized workers, the contraction of the gender unionization gap lowered the wages of men relative to women. This accounted for 26.8% of the narrowing gender wage gap.

Changes in the pay structure within some industries also contributed to the narrowing gap. For example, men traditionally held most high-paying manufacturing jobs—like auto assembly and metal fabricating—while women held jobs in lower-paying sectors like textiles and clothing. However, the average hourly wages of younger men in manufacturing fell by about 2% between 1988 and 2008 but rose by roughly 10% for younger women.

Declining correlation between wage gap and age

One clear result is that the gender wage gap generally increases with age (reading across the rows of data Table 1, second panel). Since women's characteristics have changed significantly since the earlier cohorts entered the workforce, at any point in time older women's characteristics will be quite different from those of younger women. Women's characteristics, although similar to men's early in their careers, may diverge due to differing educational, occupational and career interruption decisions. When combined, the

Table 2 Accounting for the narrowing wage gap, 1988 to 2008

	Age					
	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54
Change in						
Female-to-male wage ratio	0.056	0.064	0.068	0.089	0.103	0.162
Gap of log wages	-0.072	-0.103	-0.118	-0.120	-0.156	-0.217
Real log wages						
Men	0.005	0.012	-0.026	-0.045	-0.001	-0.021
Women	0.078	0.115	0.092	0.074	0.155	0.196
	%					
% due to differences in characteristics	**66.0**	**52.7**	**40.2**	**57.1**	**47.1**	**65.4**
Age	2.3	0.9	0.7	-0.1	-0.4	-0.9
Education	28.4	27.8	8.5	-7.0	-0.8	3.6
Province	-11.2	-7.2	-7.0	-3.3	-4.9	1.1
Tenure	5.3	6.5	21.6	26.5	13.9	14.6
Marital status	0.8	4.2	2.5	6.0	3.0	1.8
Union	26.8	9.3	3.1	5.0	4.8	6.6
Part time	8.7	11.1	5.5	4.0	1.6	6.8
Industry	-12.0	-4.3	-5.8	11.1	1.6	4.0
Occupation	18.7	4.3	11.0	15.7	28.2	27.7
% due to differences in returns	**34.0**	**47.3**	**59.8**	**42.8**	**52.9**	**34.6**

Sources: Statistics Canada, Labour Market Activity Survey, 1988 to 1990; Survey of Labour and Income Dynamics, 1993 to 1996; Labour Force Survey, 1998 to 2008.

large gender wage gap among older workers and the smaller wage gap among younger workers are easily explained.

Although there is a correlation between the wage gap and age in all survey years, this correlation becomes smaller each successive year. The gender wage gap was 20.1 percentage points smaller among workers age 25 to 29 than among workers age 50 to 54 in 1988. By 2008, the difference in the gap between younger and older workers shrank to 9.4 percentage points.

The weakening correlation between the wage gap and age suggests a 'cohort replacement effect': as younger cohorts replace older ones, the overall gap declines simply because the gap is smaller (and remains smaller) in new cohorts than in those that preceded them.

Does the gender wage gap increase as workers age?

The comparison made above is between workers from different birth periods. It does not answer the question, "Does the gender wage gap increase as workers age?" The change in the gender wage gap for a given cohort[11] over time can be found by reading Table 1 diagonally.[12]

Using this approach, the gender wage gap was 15.4 percentage points among workers age 25 to 29 in 1988. Ten years later, when the cohort was age 35 to 39, there was a gender wage gap of 19.5 percentage points. Finally, in 2008, when the cohort was age 45 to 49, the wage gap was 21.6 percentage points. These numbers show that the wage gap widened by about 6.2 percentage points for the 1988 cohort over 20 years. This is quite a different finding from the cross-sectional evidence in 2008 where the gap among workers age 45 to 49 in 2008 was 11.7 percentage points higher than among those age 25 to 29. The cross-sectional data tend to overstate the correlation between the wage gap and age.

Repeating the same exercise for the other age groups casts further doubt on the strength of the correlation between age and the gender wage gap observed in cross-sectional data. In fact, the gender wage gap remained stagnant for some cohorts as they aged. For example, among workers age 30 to 34, the gender wage gap was 20.6 percentage points in 1988 and 19.3 points in 2008. For other cohorts, the data show no clear pattern. So for at least some cohorts, part of the narrowing wage gap may be attributable to the fact that men's and women's wages no longer diverged as they aged.

Why did the wages of men and women in these cohorts stop diverging as they aged? Two possible explanations are related to career paths. First, as women's children age, they may be able to devote more time and energy to the paid labour market (by accepting promotions or acquiring training). As a result, the wage gap within a given cohort may have narrowed or remained stagnant since women's enhanced work effort improved their relative earnings capacity. Second, female workers have traditionally been

Addressing selection issues: Simple selection correction

Following Baker et al. (1995), the wages of those in the sample of participants (or those with wages observed) are estimated by the regression $w^{g}_{ipt} = \alpha^{g} + X^{g}_{ipt}\beta^{g}_{t} + e^{g}_{ipt}$ where w^{g}_{ipt} is the natural logarithm of the hourly wage of worker i, within the sample of participants p, of gender g, in time t; and X^{g}_{ipt} is a vector or wage determining characteristics (age, education, marital status, presence of preschool children, and region). Second, the wages of those not in the sample of participants n (or those with unobserved wages) w^{g}_{int} are estimated using the regression results β^{g}_{t} and their mean characteristics, X^{g}_{int}. Using 1998 as the designated base year (t=0), a weighted estimate of the mean log wages is calculated for men and women as: $\overline{w}^{g}_{t} = \overline{\varpi^{g}_{t} w^{g}_{pt}} + (1-\varpi^{g}_{t})\overline{w^{g}_{nt}}$, where $\omega^{g}_{t} = pr^{g}_{t} / pr^{g}_{0}$ and pr^{g}_{t} is the employment rate of gender g in year t. Finally, by construction w^{g}_{nt} controls for observable differences between participants and non-participants, however, it may be prudent to control for unobservable differences by multiplying by k. If those not participating in the paid labour market are assumed to receive wage offers lower than those participating in the labour market, then $k < 1$. Following Baker et al. (1995), adjusted results are presented for $k = 1.0$ and $k = 0.9$.

viewed as more likely to quit and be absent from work (Hill 1979), and these predetermined notions of job performance may influence pay as well as job placement (Chandler et al. 1994). However, recent empirical evidence shows that there is little gender difference in permanent quit rates and absenteeism (Zhang 2007). As a result, the wage gap within a given cohort may have narrowed or remained stagnant since quits and absenteeism can no longer be viewed as important explanations for women's lower wages.

The role of changing 'selection bias'

Since women's employment rates were lower in the past, the possible contribution of changing participation rates to the narrowing of the earnings gap should be considered. For instance, if women working in the 1980s had 'above-average' earnings potential relative to those not working in the 1980s, it would constitute a selection bias. As women's employment rates increased, more women with 'average' earnings potential entered the labour market. Such a scenario would represent a change in the selection bias, altering the measurement of the wage gap.

To isolate the impact of changing selection bias, wages must be linked to a consistent mix of characteristics at different points in time. Baker et al. (1995) illustrate a technique to control for changing selection biases that may affect comparisons of unadjusted differentials over time. The technique can also include an adjustment that allows the analyst to make assumptions about unobserved characteristics.

After selection bias is taken into account (see *Addressing selection issues: Simple selection correction*), the adjusted wage gap shrinks more than previously reported for 1988 to 2008: an additional 1.6 percentage-point increase over the 7.6 percentage-point change in the unadjusted gap. This indicates that the average skills of new entrants in the labour market command lower wages than those who participated both years. If this assumption is extended to unobservable characteristics,[13] the gap shrinks an additional 5.1 percentage points compared to the change in the unadjusted gap. According to these assumptions, addressing the selection issue further reduces the gender wage gap between 1988 and 2008 by between 1.6 and 5.1 percentage points.[14]

For those age 25 to 29 in 1988, the unadjusted gender wage gap widened by 6.2 percentage points over the following 20 years (Table 3). Using selectivity-adjusted wages, the gap widened by 5.4 percentage points or by 2.4 percentage points when unobserved characteristics were taken into account. According to these assumptions, the growth of the wage gap for this cohort is overstated by between 0.8 and 3.8 percentage points when selection effects have not been taken into account. This provides further evidence that the correlation between the wage gap and age is overstated in cross-sectional tabulations.[15]

Summary

This article explored factors contributing to the decline in the gender pay gap over time. The first

Table 3 Addressing selection bias: Selectivity-adjusted gender wage ratios

	1988	1998	2008	1988 to 2008
		ratio		change
All workers age 25 to 54				
Employment rates				
Men	0.876	0.845	0.865	-0.011
Women	0.675	0.722	0.781	0.106
Unadjusted wage ratio	0.757	0.811	0.833	0.076
Selectivity-adjusted wage ratio				
k = 1.0	0.742	0.807	0.834	0.093
k = 0.9	0.721	0.807	0.848	0.127
Synthetic cohort: Workers age 25 to 29 in 1988 and 45 to 49 in 2008				
Employment rates				
Men	0.853	0.863	0.867	0.014
Women	0.694	0.732	0.804	0.110
Unadjusted wage ratio	0.846	0.805	0.784	-0.062
Selectivity-adjusted wage ratio				
k = 1.0	0.835	0.805	0.781	-0.054
k = 0.9	0.827	0.805	0.803	-0.024

Note: Sample of non-participants includes persons who are unemployed, not in the labour force and self-employed.
Sources: Statistics Canada, Labour Market Activity Survey, 1988 to 1990; Survey of Labour and Income Dynamics, 1993 to 1996; Labour Force Survey, 1998 to 2008.

major finding—that the growth in women's relative wages outpaced that of men—suggests that the changing composition of the labour force and changes in how the labour market compensates workers played a role in narrowing the gender wage gap.

The second major finding—that men and women entering today's labour market are more alike in terms of characteristics and wages than they were in the past—suggests that part of the decline in the gender wage gap may be due to a cohort-replacement effect. As the younger cohorts 'replace' older cohorts, the overall wage gap declines simply because the gap is smaller for the new cohorts than for those who preceded them.

The third major finding—that cross-sectional evidence tends to overstate the correlation between the wage gap and age—suggests that part of the decrease in the gender wage gap is related to the fact men and women's wages did not diverge as they aged to the same extent as in the past.

These findings provide some insight into the functioning of the Canadian labour market. First, the gender wage gap early in an individual's career is an increasingly good predictor of the wage gap throughout a generation's working life. Second, further declines in the gender pay gap may be difficult to determine since, after the 1988 cohort, there are only moderate declines in the wage gap for younger women from cohort to cohort.

Perspectives

Notes

1. A complete analysis of the differences in the level and trend of the gender earnings gap and the gender wage gap can be found in Baker and Drolet (forthcoming).
2. These measures do not reflect completed job tenure—they measure job length at the time of the survey. Job tenure measures the number of consecutive months or years a person has worked for the current (or most recent) employer. The employee may have worked in one or more occupations or in one or more locations or businesses and still be considered to have continuous tenure if the employer has not changed. But if a person has worked for the same employer over different periods of time, job tenure measures the most recent period of uninterrupted work. A temporary layoff does not constitute an interruption.
3. Author's calculations from Labour Force Survey estimates, CANSIM Table 282-0004.
4. Author's calculations from CANSIM Table 477-0014.
5. Includes those not represented by a union but covered by a collective bargaining agreement.
6. The percentile rankings refer to each sex's own wage distribution. An alternative method is to calculate the average female percentile ranking in the male wage distribution. This indicator shows that women 'moved up' in the male pay distribution—on average, women outearned 32% of men in 1988, 37% in 1998 and 39% in 2008.

7. CANSIM Table 477-0013.

8. Baker and Drolet (forthcoming) note similar results for full-time workers.

9. Long-term jobs are those that last at least 20 years.

10. Information on major field of study is missing from this analysis. See Frenette and Coulombe (2007) for a more detailed discussion.

11. Here the term 'cohort' is used to describe a 'synthetic cohort' defined by date of birth. A synthetic cohort is constructed from repeated cross-sectional surveys. This permits the *average* labour market outcomes (in this case wages) of workers in different birth periods to be tracked over time. This differs from studies using panel data that track the outcomes of *individual* workers over time. As long as the cross-sectional sample is representative, this approach should approximate changes in the gender wage ratio over time for workers within the same birth period. A drawback of this approach is the assumption that the population is fixed. In other words, individuals observed working at age 25 to 29 in 1988 are assumed to be the same individuals working at age 45 to 49 in 2008. *Addressing selection issues: Simple selection correction* addresses this assumption and re-estimates changes in the gender wage differential over time.

12. Baker and Drolet (forthcoming) present similar results graphically in their Figure 6.

13. Setting k=0.9 as indicated in *Addressing selection issues: Simple selection correction.*

14. Similar results are noted by workers of specific age groups.

15. The sample of non-participants includes persons who are unemployed, persons who are not in the labour force but able to work, and persons who are self-employed. Alternative samples of non-participants (unemployed only, unemployed, and those not in the labour force) were used to perform a similar analysis. All samples produced similar results.

16. Neill (2009) reports that, for the 18- to 24-year-old population, enrolment in full-time university studies increased between 1979 and 2003. This may affect the gender wage ratio for this age group since the type of younger adult working may be systematically changing.

17. Milligan and Schirle (2008) document significant changes in the employment rates of older (55 and over) men and little change in the employment rates of older women. Changing retirement patterns may influence the gender wage ratio among older workers since the type of older adult working may be systematically changing.

18. Drolet (2001) shows that, in 1997, younger women (25 to 34) spent 84% of their potential years of work experience working full-year, full-time compared to 74% of older women (45 to 54), while men spent over 90% of their potential years of work experience working full-year, full-time, regardless of age. These numbers were calculated using data from the Survey of Labour and Income Dynamics.

19. The variables used have been harmonized to provide a consistent concept over the survey years. Concordances for industry coding (from the Standard Industrial Classification [SIC]—used up until 1998—to the North American Industry Classification System [NAICS]) and occupation coding (from the Standard Occupational Classification [SOC] to the National Occupational Classification [NOC]) were used to match, as consistently as possible, at aggregate levels. See Baker and Drolet (forthcoming) for a complete description.

20. Results from this specification should be interpreted cautiously since access to occupations, industries and unionized workplaces may be affected by differential treatment of men and women in the labour market.

21. The male wage structure is used for comparative purposes. While it is recognized that the choice of wage structure matters (Drolet 2001), questions related to pay differentials are often framed in a manner that asks whether women are paid the same as comparable men.

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Seniors' self-employment

Sharanjit Uppal

The potential impact of workforce aging is widely discussed as baby boomers enter their retirement years. The Minister of Human Resources and Social Development Canada established the Expert Panel on Older Workers in 2007 in response to two issues that could affect the standard of living in Canada. First, population aging could reduce the growth potential of the Canadian economy since income generally declines with retirement. The second question is how to provide for the older workers who are displaced as the economy adapts to a changing environment.

The risks associated with an increase in the old-age dependency ratio—defined as the ratio of retired individuals to the number of working people—are often debated. On the one hand, many believe that the increase in the number of retirees will put a strain on public resources, and possibly also lead to labour shortages in certain areas. Others argue that recent cohorts are likely to work longer since they tend to be healthier, better-educated, and more entrepreneurial than previous generations of retirees.

Indeed, the employment rate among seniors has increased in recent years (Uppal 2010). Between 1996 and 2006, the share of working seniors (65 and over) climbed from 11.8% to almost 14.8% among men, and from 4.0% to 5.8% among women. However, the fact that many of these employed seniors are self-employed has not been widely reported. According to the latest census data, 44.1% of senior men and 28.6% of senior women who had a job in 2006 were self-employed. Moreover, self-employment among older Canadians increased by more than 100,000 during the recent economic downturn (LaRochelle-Côté 2010).

Self-employment is typically seen as providing more flexibility and imposing fewer constraints on retirement timing, which could explain why many working seniors choose self-employment (Quinn 1980 and Hochguertel 2010). In addition, seniors typically have higher levels of human and financial capital to invest in a small business, two conditions thought to stimulate entrepreneurial activity (Beaucage and Najem 2006, and Zissimopoulos and Karoly 2007). Alternatively, some seniors may be pushed into self-employment through a lack of paid employment opportunities.

Despite the high incidence of self-employment among the senior population, little has been published on the topic recently.[1]

The first objective of this study is to present new information on self-employment trends among seniors and examine their industrial and occupational profiles. The second is to examine factors associated with self-employment after age 64. Since a large sample is required to obtain a detailed description of seniors' self-employment, this study uses census data (see *Data source and definitions*).

Many working seniors are self-employed

Although participation in the job market drops significantly at age 65, many of those who remain on the job are self-employed. In 2006, 14.8% of senior men held a job (Table 1). As a proportion of senior men, 8.2% were paid employees and 6.6% were self-employed. Among senior women, the employment rate was 5.8%, consisting of 4.0% who were paid employees and 1.7% who were self-employed.[2] Thus, among seniors, 44.1% of working men and 28.6% of working women were self-employed.

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Table 1 Labour force status of seniors, 2006

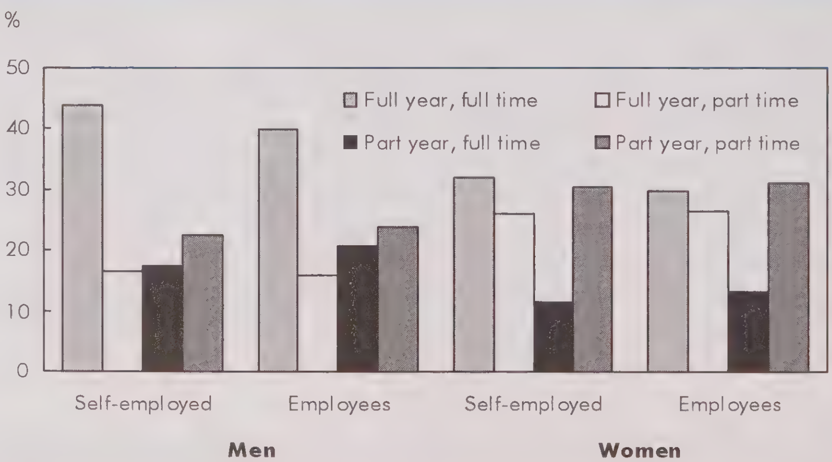
	65 and over		65 to 69		70 to 74		75 to 79		80 and over	
Men		%		%		%		%		%
Total population	**1,888,905**	**100.0**	**597,800**	**100.0**	**491,065**	**100.0**	**391,240**	**100.0**	**408,810**	**100.0**
Not in the labour force	1,519,935	80.5	424,460	71.0	411,175	83.7	343,430	87.8	340,870	83.4
Institutionalized	75,195	4.0	6,320	1.1	8,565	1.7	13,190	3.4	47,115	11.5
Unemployed	13,450	0.7	8,560	1.4	2,580	0.5	1,225	0.3	1,080	0.3
Employed	280,330	14.8	158,455	26.5	68,750	14.0	33,390	8.5	19,740	4.8
Employees	154,860	8.2	95,250	15.9	35,410	7.2	14,740	3.8	9,460	2.3
Self-employed	123,670	6.6	62,370	10.4	32,830	6.7	18,320	4.7	10,160	2.5
Non-farm	88,010	4.7	49,235	8.2	22,430	4.6	10,885	2.8	5,465	1.3
Farm	35,660	1.9	13,135	2.2	10,400	2.1	7,435	1.9	4,695	1.2
Unpaid family worker	1,800	0.1	840	0.1	510	0.1	330	0.1	125	0.0
Women										
Total population	**2,445,890**	**100.0**	**635,335**	**100.0**	**564,285**	**100.0**	**494,610**	**100.0**	**751,665**	**100.0**
Not in the labour force	2,111,120	86.3	539,930	85.0	518,340	91.9	456,160	92.2	596,700	79.4
Institutionalized	185,300	7.6	6,430	1.0	11,520	2.0	23,350	4.7	144,010	19.2
Unemployed	8,100	0.3	4,030	0.6	1,855	0.3	1,020	0.2	1,200	0.2
Employed	141,360	5.8	84,950	13.4	32,570	5.8	14,085	2.9	9,760	1.3
Employees	97,250	4.0	61,765	9.7	20,585	3.7	8,640	1.8	6,270	0.8
Self-employed	40,400	1.7	21,385	3.4	10,800	1.9	4,990	1.0	3,230	0.4
Non-farm	31,510	1.3	17,830	2.8	8,055	1.4	3,490	0.7	1,090	0.1
Farm	8,890	0.4	3,555	0.6	2,745	0.5	1,500	0.3	2,140	0.3
Unpaid family worker	3,700	0.2	1,800	0.3	1,190	0.2	455	0.1	260	0.0

Source: Statistics Canada, Census of Population.

The proportion of workers who are self-employed is even higher among older seniors.[3] For example, the proportion of the self-employed among working men age 65 to 69 was 39.4% in 2006, but was greater than one-half of those who were still working after age 75.[4] Among women, the self-employed made up one-quarter of workers age 65 to 69, rising to more than one-third of working women age 70 and over.

Self-employed seniors are more likely to work full year, full time than paid employees (Chart A). Among men, 43.8% of self-employed seniors worked full year, full time in 2005 compared to

Chart A Work activity among employed seniors in 2005



Source: Statistics Canada, Census of Population, 2006.

Data source and definitions

This study uses data on men and women, 65 years of age and over, from the censuses of 1981, 1986, 1991, 1996, 2001 and 2006. Census data are required to conduct detailed analyses for relatively small population groups, like self-employed seniors. The census is conducted every five years. One-fifth of households receive the long form which, in addition to basic demographic information, asks more detailed questions including some on labour market activities. The 20% sample is weighted to represent all Canadians.

Variable definitions

Employed: a person is considered to be employed if he or she had a job in the week preceding the census, including those who were temporarily absent for the entire week because of vacation, illness, a labour dispute at work, maternity/parental leave, bad weather, fire, family responsibilities, or some other reason.

Employment rate: the number of employed persons expressed as a percentage of the relevant population.

Employee: paid worker – working for wages, salary, tips or commission.

Self-employed: includes individuals who had a job in the reference week and belonged to one of the following categories: self-employed without paid help, incorporated; self-employed with paid help, incorporated; self-employed without paid help, not incorporated; or self-employed with paid help, not incorporated.

Unpaid family worker: worked without pay for a relative in a family business or on a farm.

Work activity: based on data prior to the census year since data on weeks worked are for the previous year. An individual was classified to be working full year, full time if he or she worked 49 to 52 weeks full time (30 hours or more per week).

Other family income: this variable is calculated by first subtracting employment income (if any) from total economic family income and then adjusting for family size by dividing it by an adjustment factor that takes the lower relative needs of additional family members, compared to a single person living alone, into account. Income quintiles are then calculated using the adjusted other family income. Information on income variables is for the year prior to the census year.

Education: education levels are constructed using the highest certificate, diploma or degree variable. The lowest level, Level 1, is below high school graduation certificate or equivalency diploma. Level 2 is high school graduation certificate or equivalency diploma. Level 3 includes other trades certificate/diploma or registered apprenticeship certificate. Level 4 consists of college, CEGEP or other non-university certificate or diploma from a program of 3 months to less than 1 year, college, CEGEP or other non-university certificate or diploma from a program of 1 year to 2 years, college, CEGEP or other non-university certificate or diploma from a program of more than 2 years, or certificate or diploma below bachelor. The highest level, Level 5, includes bachelor's degree, certificate or diploma above bachelor, degree in medicine, dentistry, veterinary medicine or optometry, master's degree, or earned doctorate degree.

Activity limitations: are based on questions that refer to conditions or health problems that have lasted or are expected to last six months or more:

1. "Does this person have any difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing any similar activities?"

2. "Does a physical condition or mental condition or health problem reduce the amount or kind of activity this person can do: (a) at home? (b) at work or at school? (c) in other activities, for example, in transportation or leisure?"

Reponses to either question indicating "yes, often" and "yes, sometimes" are used to create the corresponding activity-limitation variables.

Occupation: Based on National Occupational Classification (520 occupations).

Industry: Based on the 2002 North American Industry Classification System.

Recent immigrants: Individuals who immigrated to Canada between 1997 and 2006.

Established immigrants: Individuals who immigrated to Canada before 1997.

Aboriginal peoples: Self-reported aboriginal status.

39.8% of senior employees. Similarly, 32.0% of self-employed senior women worked full year, full time versus 29.6% of their paid counterparts. In contrast, paid employees age 25 to 54 were more likely than the self-employed to work full year, full time in 2005 (data not shown). Therefore not only is self-employment more prevalent among senior workers than younger workers (see *Comparisons with younger age groups*), but self-employed seniors are also more likely to report that they work full time for the full year.

Self-employment growing at slower pace than paid jobs among seniors[5]

Uppal (2010) found that the proportion of seniors who work past age 64 has increased since 1996, following 15 years of decline. For example, the employment rate for senior men increased from 11.8% to 14.8% between 1996 and 2006. Over the same period, the share of paid employees as a proportion of senior men increased from 5.4% to 8.2% (Chart B).

Chart B Paid employment and self-employment as a proportion of total population, 1981 to 2006

Source: Statistics Canada, Census of Population.

Similar patterns were found among women. Did self-employment also contribute to the recent increase in employment among seniors?

The answer is yes, but the number of paid employees increased faster than the number of self-employed seniors and the proportion of senior workers in self-employment fell as a consequence (Chart C). Between 1996 and 2006, the share of the self-employed among working seniors declined from 53.5% to 44.4% among men, and from 33.7% to 29.4% among women.[6,7]

By historical standards, self-employment was still relatively high among seniors in 2006. Among senior workers in 1981, 37.8% of men and 13.0% of women were self-employed. The relative importance of self-employment for seniors increased rapidly over the next 15 years, especially among men: by 8.5 percentage points from 1981 to 1986 and by 7.9 points from 1991 to 1996. Both periods were characterized by relatively weak labour markets. Other studies suggest that many workers are 'pushed' into self-employment during periods of economic stagnation (Kuhn and Schuetze 2001).

Long-term growth among the incorporated self-employed

The self-employed can be classified into two categories: the 'incorporated,' who own a separate business entity, and the 'unincorporated,' who do not. Both the

Chart C Paid employment and self-employment as a proportion of the employed, 1981 to 2006

Source: Statistics Canada, Census of Population.

incorporated and unincorporated may have paid employees resulting in four categories (Table 2). The majority of self-employed seniors were unincorporated: about two-thirds of self-employed men and three-quarters of self-employed women. And the vast majority of those who were unincorporated did not have paid employees: 80.4% among women and 74.2% among men.[8] In contrast, more than one-half of incorporated seniors had paid employees in 2006.

While the unincorporated without paid help—also referred to as own-account workers—still comprise the majority of self-employed seniors, their share has declined. Between 1981 and 2006, the share of self-employed men who were unincorporated without paid help fell steadily from 67.7% to 50.5% (Chart D). There was also a modest decline among women—from 61.8% to 58.9%.

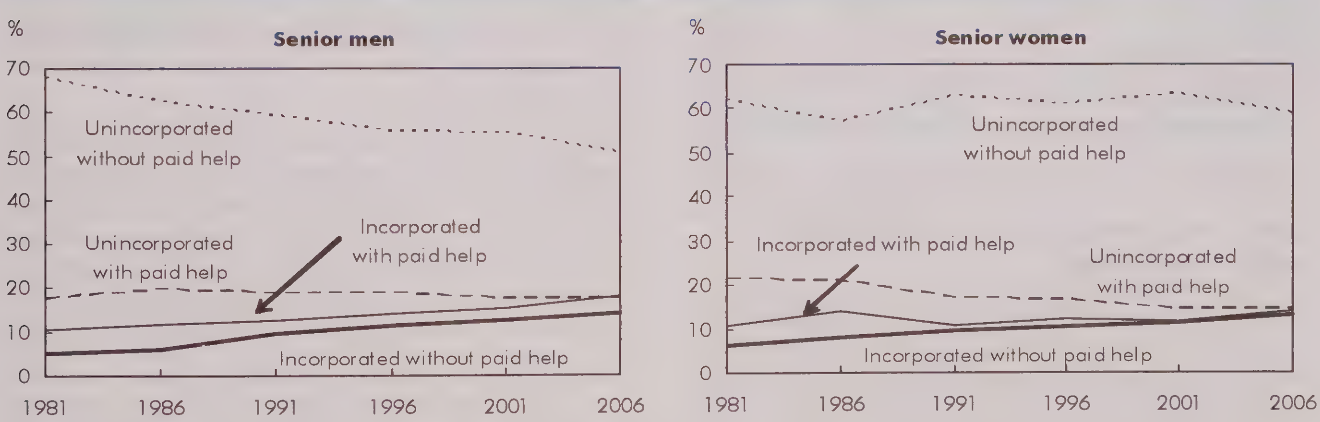
Table 2 Self-employment categories for seniors, 2006

	65 and over	65 to 69	70 to 74	75 to 79	80 and over
			%		
Men					
Incorporated	31.9	34.5	31.3	27.7	26.0
Without paid help	14.0	14.9	14.1	12.2	11.6
With paid help	17.9	19.6	17.2	15.5	14.4
Unincorporated	68.1	65.6	68.6	72.3	74.1
Without paid help	50.5	47.4	51.6	55.0	57.5
With paid help	17.6	18.2	17.0	17.3	16.6
Women					
Incorporated	26.8	27.4	25.1	27.8	26.1
Without paid help	13.1	12.5	13.0	13.8	15.8
With paid help	13.7	14.9	12.1	14.0	10.3
Unincorporated	73.3	72.7	74.9	72.2	73.9
Without paid help	58.9	58.1	60.9	59.1	57.5
With paid help	14.4	14.6	14.0	13.1	16.4

Source: Statistics Canada, Census of Population.

In contrast, the share of incorporated self-employed men more than doubled, from 15.1% in 1981 to 31.9% in 2006. Incorporated women also increased their share of self-employed seniors: from 16.9% in 1981 to 26.8% in 2006. Thus self-employment among seniors is increasingly comprised of incorporated business owners, as opposed to own-account workers.

Chart D Self-employment categories, self-employed, 1981 to 2006



Source: Statistics Canada, Census of Population.

Table 3 Seniors' employment by industry, 2006

Men	Employee (%)
Consumer services	33.3
Business services	19.5
Manufacturing	11.0
Construction and utilities	8.6
Transport	7.4
Education	5.7
Primary goods	5.3
Public administration	5.1
Health	4.0
	Self-employed (%)
Primary goods	31.6
Consumer services	23.1
Business services	22.0
Construction and utilities	8.6
Health	5.5
Manufacturing	5.0
Transport	3.1
Education	1.0
Public administration	0.0
Women	Employee (%)
Consumer services	37.8
Health	17.8
Business services	17.3
Education	9.4
Manufacturing	5.5
Public administration	4.4
Primary goods	3.4
Construction and utilities	2.3
Transport	2.1
	Self-employed (%)
Consumer services	34.3
Primary goods	26.0
Business services	19.6
Health	8.4
Manufacturing	4.7
Education	3.8
Construction and utilities	2.2
Transport	1.0
Public administration	0.0

Source: Statistics Canada, Census of Population.

Self-employed seniors concentrated in a few industries

In comparison with paid employees, self-employed seniors were more concentrated in a few industries. More than three-quarters of self-employed seniors could be found in three industries: primary goods, consumer services and business services (Table 3). One-third of self-employed men were in primary goods and one-third of self-employed women were in consumer services. By way of comparison, senior men who were paid employees were typically employed in consumer services, business services and manufacturing (63.8%). Senior women working as paid employees were likely to work in consumer services, health and business services (72.9%).

Self-employed seniors were also more likely to be concentrated in a few occupations (Table 4). Almost one-half were employed in the top 10 occupations (out of 520). The most frequently reported occupation was farmer or farm manager, accounting for 24.2% of self-employed men and 17.2% of self-employed women. Concentration in the top 10 occupations was much lower for paid employees: 28.4% for men and 37.6% for women.

Factors associated with seniors' self-employment[9]

Research suggests that self-employment is related to a number of factors, including financial capital, education, and personal characteristics (Fuchs 1982, Bruce et al. 2000, and Zissimopoulos and Karoly 2007).

The financial capital hypothesis suggests that individuals in wealthier families are more likely to be self-employed because the associated risks and investments are more easily addressed when individuals are financially sound (Georgellis et al. 2005). Even though the census does not contain any information on financial wealth, it is possible to test that hypothesis by using "adjusted family income" as a proxy.[10] It is calculated by subtracting the employment income of the respondent from the total family income,[11] and next adjusting to account for the size of the family (see *Data source and definitions*). Individuals can then be classified across quintiles in order to verify whether those with higher financial capital also have higher self-employment rates.

Self-employment rates can also vary by educational attainment. Higher education may give individuals the skills to start and remain in business. Certain fields of study, like law and medicine, also lead graduates into occupations with relatively high rates of self-employment. Past studies have produced mixed results on the link between education and self-employment.

Other personal characteristics are also known to influence the probability of being self-employed. For example, those with another self-employed family member (usually the spouse) tend to be self-employed themselves. The link is less clear for other characteris-

Table 4 Top 10 occupations: Seniors who were paid employees versus the self-employed, 2006

Men	Employee (%)
Retail salespersons and sales clerks	5.2
Janitors, caretakers and building superintendents	3.9
Truck drivers	3.8
Security guards and related occupations	3.6
Bus drivers and subway and other transit operators	2.7
Sales representatives, wholesale trades (non-technical)	2.1
Ministers of religion	2.0
Real estate agents and salespersons	1.8
Delivery and courier service drivers	1.7
Retail trade managers	1.6
	Self-employed (%)
Farmers and farm managers	24.2
General farm workers	4.3
Retail trade managers	3.5
Financial auditors and accountants	2.4
Lawyers and Quebec notaries	2.1
Retail salespersons and sales clerks	2.0
Truck drivers	1.8
General practitioners and family physicians	1.8
Senior managers - goods production, utilities, transportation and construction	1.6
Senior managers - trade, broadcasting and other services, n.e.c.[1]	1.6
Women	Employee (%)
Retail salespersons and sales clerks	8.1
Secretaries (except legal and medical)	6.9
Registered nurses	3.6
General office clerks	3.6
Bookkeepers	3.3
Light duty cleaners	2.8
Receptionists and switchboard operators	2.5
Cashiers	2.4
Administrative officers	2.3
Visiting homemakers, housekeepers and related occupations	2.1
	Self-employed (%)
Farmers and farm managers	17.2
Secretaries (except legal and medical)	5.3
Bookkeepers	4.8
General farm workers	4.6
Retail trade managers	4.4
Retail salespersons and sales clerks	3.3
Light duty cleaners	2.8
Property administrators	2.3
Painters, sculptors and other visual artists	2.1
Babysitters, nannies and parents' helpers	1.9

1. n.e.c. = not elsewhere classified
Source: Statistics Canada, Census of Population.

tics. Might those with activity limitations be more likely to be self-employed in order to work around their constraints? Are new immigrants more entrepreneurial than the Canadian-born or more established immigrants?

Modelling self-employment among senior workers

The probability that a working senior would be self-employed as opposed to a paid worker was estimated using probit models. In addition to the aforementioned factors, a number of other demographic variables were included as controls.

Since farmers and farm managers comprise the largest sub-group of self-employed seniors and their characteristics differ from those of other self-employed workers, alternative models were estimated excluding this sub-group. A third set of models, using industry controls, was also estimated to control for this heterogeneity without subdividing the sample.

These models are estimated using cross-sectional data. The results are thus descriptive in nature—they do not address the probability of *becoming* self-employed. Such inferences would require longitudinal data. Currently available longitudinal data sets lack either the sample size or the range of variables to conduct such an analysis focusing on seniors.

The results are presented as marginal effects which measure the change in the odds of being self-employed for a certain characteristic in comparison to a reference group (Table 5). These marginal effects can generally be interpreted as the difference in probability between the groups being compared. For example, the value of -0.04 in the upper-left-most cell in Table 5 indicates that those in the first quintile of "other income" are 4% less likely to be self-employed than those in the third quintile.

Higher-income seniors are more likely to be self-employed

According to the model, adjusted family income was positively related to self-employment among seniors. For working men, the probability of being self-employed as opposed to being a paid employee was higher by 0.04 in the fourth income quintile and by 0.11 in fifth income quintile than for those in the

Table 5 Marginal effects from a probit model of seniors' self-employment, 2006[1,2]

	Men				Women			
	All		Non-farm		All		Non-farm	
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Other family income								
First quintile	-0.04*	-0.03*	-0.03*	-0.03*	-0.01	-0.02**	-0.02	-0.02**
Second quintile	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Third quintile (ref.)	...	...	...	...	...	...	...	...
Fourth quintile	0.04*	0.05*	0.04*	0.04*	0.02*	0.02**	0.03*	0.03*
Fifth quintile	0.11*	0.11*	0.11*	0.11*	0.07*	0.06*	0.07*	0.06*
Highest level of education								
Less than high school (ref.)	...	...	...	...	...	...	...	...
High school or equivalent	-0.06*	-0.03*	-0.01	-0.01	-0.03*	-0.01	-0.01	0.00
Trades/apprenticeship certificate	-0.04*	0.01	0.04*	0.03*	-0.01	0.02	0.02	0.02**
Non-university certificate/diploma	-0.03*	0.01	0.04*	0.03*	-0.01	0.03*	0.01	0.04
University degree	0.02	0.09*	0.10*	0.11*	0.07	0.17*	0.09*	0.17*
Activity limitations								
None (ref.)	...	...	...	...	...	...	...	...
Limited sometimes	0.03*	0.02*	0.02*	0.02*	0.04*	0.04*	0.04*	0.03*
Limited often	0.04*	0.04*	0.03*	0.04*	0.04*	0.04*	0.04*	0.03*
Age								
65 to 69	-0.09*	-0.05*	-0.04*	-0.02**	-0.06*	-0.03**	-0.03**	-0.02
70 to 74	-0.03*	-0.01	0.00	0.00	0.00	0.02	0.02	0.02
75 to 79	0.02**	0.03*	0.04*	0.04*	0.02	0.02	0.03**	0.03
80 and over (ref.)	...	...	...	...	...	...	...	...
Employment status of other family member								
Paid employee (ref.)	...	...	...	...	...	...	...	...
Self-employed	0.17*	0.15*	0.14*	0.14*	0.18*	0.14*	0.13*	0.13*
Not working	0.03*	0.03*	0.01**	0.02*	0.07*	0.07*	0.06*	0.06*
Immigrant status								
Immigrated between 1997 and 2006	-0.16*	-0.16*	-0.14*	-0.14*	-0.10*	-0.10*	-0.08*	-0.08*
Immigrated before 1997	0.03*	0.05*	0.04*	0.05*	0.03*	0.04*	0.04*	0.04*
Aboriginal peoples	-0.17*	-0.13*	-0.10*	-0.07*	-0.15*	-0.11*	-0.11*	-0.09*
Other (ref.)	...	...	...	...	...	...	...	...
Industry								
Consumer services (ref.)	...	...	...	...	...	...	...	...
Business services	...	0.08*	...	0.07*	...	0.02**	...	0.02**
Manufacturing	...	-0.10*	...	-0.09*	...	-0.02	...	-0.02
Construction and utilities	...	0.09*	...	0.09*	...	0.00	...	0.00
Transportation	...	-0.10*	...	-0.09*	...	-0.10*	...	-0.09*
Primary goods	...	0.40*	...	0.06*	...	0.41*	...	0.15*
Public administration and education	...	-0.37*	...	-0.32*	...	-0.22*	...	-0.19*
Health	...	0.09*	...	0.08*	...	-0.14*	...	-0.12*

* significantly different from the reference group (ref.) at the 1% and ** 5% levels, respectively
1. Dependent variable = 1 if self-employed and employed in the reference week, 0 if paid employee and employed in the reference week.
2. Marginal effect is for a discrete change in dummy variable from 0 to 1.
Note: Models also controlled for marital status, official language, type of region and province.
Source: Statistics Canada, Census of Population.

Comparisons with younger age groups

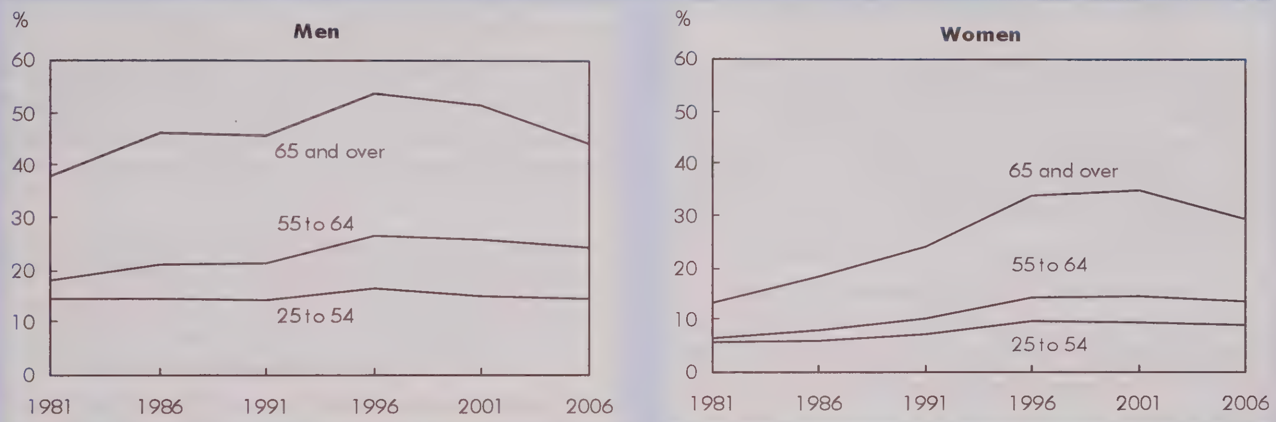
Self-employment as a percentage of the total population is higher for younger age groups than seniors because more individuals are working in the former age range.

The rate has been more stable among senior men than younger age groups. While the rate among senior men remained around 6% between 1981 and 2006, for those age 25 to 54 it decreased from 13.1% in 1981 to 11.9% in 1991, increased to 13.6% over the next five years, and fell to 12.5% in 2006 (data not shown). For 55- to 64-year-olds, after registering a small increase between 1981 and 1986 and a decline to 12.9% during the next five years, it was on the rise until 2001 and remained at 15.5% in 2006.

Among women, all three age groups experienced a steady increase over time. The rate increased from 0.7% to 1.7% for seniors, from 2.1% to 6.6% for women age 55 to 64, and from 3.2% to 6.9% for 25- to 54-year-olds.

When self-employment among seniors was looked at as a proportion of those working, it was found to be much more prominent than among the younger age groups (Chart E). Employed senior men and women were almost twice as likely to be self-employed as workers age 55 to 64, and almost three times as likely as 25- to 54-year-olds. Also, regardless of age, men were much more likely to be self-employed than women.

Chart E Self-employed as a percentage of total employed, by age, 1981 to 2006



Source: Statistics Canada, Census of Population.

middle quintile. For those in the bottom quintile, it was lower by 0.04, while the difference between those in the second and the third quintiles was not statistically significant. Among working women, those in the fourth and fifth quintiles were also more likely to be self-employed than those in the middle quintile. However, the differences were not statistically significant between the bottom two quintiles and the middle quintile.[12]

University degree increases probability of self-employment

With respect to education, men and women with university degrees were more likely to be self-employed than those with less than a high school education. The predicted probabilities of self-employment were higher by 0.02 for university-educated men and by 0.07 for university-educated women. On the other hand, men who were either high school or postsecondary graduates, but without a university degree, were less likely to be self-employed than those who had not completed high school. Among women, the differences between middle levels of education and high school graduates were either small or not significant.

Evidence for the education hypothesis was stronger, especially for men, when farmers were removed from the sample. In this sample, both postsecondary and university graduates had higher predicted probabilities than high school graduates. These results suggest that factors other than education play a large role for farmers and farm managers.

Seniors' self-employment is often a family affair

For many seniors, self-employment is a family affair. Men and women with another self-employed family member were more likely to be self-employed themselves than those who had another family member working as a paid employee. The probability was higher by 0.17 for men and by 0.18 for women.

Conditional on the fact that they were working, senior men age 75 and over were more likely to be self-employed than younger seniors. If they were working, women age 65 to 69 were less likely to be self-employed than those 80 and over. Similar patterns held when farmers were excluded from the sample: the relative probability of self-employment peaked in the 75-to-79 age group for both men and women.

Controls for other demographic variables yielded some interesting results. Men and women with activity limitations were more likely to be self-employed than those without limitations. On the other hand, recent immigrants (who immigrated in the preceding 10 years) and Aboriginal peoples were less likely to be self-employed.

An alternative model included industry as a control. Similar to the effect of dropping farmers from the sample, adding industry controls strengthened the relationship between a university degree and self-employment.

Looking at particular industries, seniors working in business services, construction and utilities, and primary goods industries were more likely to be self-employed than those in consumer services. The opposite was true for men and women employed in manufacturing, transportation, and public administration and education. The relationship was strongest between working in primary goods and self-employment, but weakened considerably when farmers were excluded.

Summary

Recent studies have documented the increasing employment among seniors in Canada. However, much less is known about the extent of self-employment among working seniors. Using detailed information from the census, this article presented new information on self-employed seniors. It also examined the factors associated with self-employment among working seniors.

The self-employed comprised a substantial portion of the employed labour force among seniors. Among those who had a job in 2006, more than 1 in 3 seniors were self-employed. Although the number of self-employed seniors continues to increase, between 1996 and 2006 the number of employed seniors increased even faster. As a result, the proportion of self-employed seniors declined. Since self-employment increased rapidly among seniors in the 1980s and the 1990s, its share of working seniors in 2006 was still relatively high by historical standards.

In 2006, the majority of self-employed seniors were unincorporated without paid help. Over the past few decades, however, a new class of self-employed seniors—those with incorporated businesses—became increasingly prevalent.

Self-employed seniors were concentrated in a few industries and had a much less diverse occupational profile than younger self-employed workers. Farmers and farm managers accounted for one-quarter of senior men and one-sixth of senior women in self-employment.

This study also looked at factors associated with self-employment among seniors. Self-employment was positively associated with other family income, indicating that individuals with more financial capital were more likely to be self-employed. The presence of a self-employed family member (most often the spouse) and having a university degree were other factors associated with a higher probability of being self-employed. Although these results persisted in models that excluded farmers and included controls for industry, they varied somewhat in magnitude.

Perspectives

Notes

1. Existing studies tend to focus on the population age 15 to 64 (see, for example, Lin et al. 1999 and Moore and Mueller 2002). Gardner (1994) and Turcotte and Schellenberg (2007) provide some general numbers on self-employment among seniors but do not delve into the details of that specific population.

2. Farm self-employment constitutes an important portion of total self-employment. Among men, 35,660 out of the 123,670 self-employed were farmers. The corresponding numbers for women were 8,890 out of 40,400.

3. This is not surprising since paid employees typically retire earlier than the self-employed. In addition, some people who retire from paid employment enter self-employment.

4. Out of 158,455 (84,950) employed men (women) age 65 to 69, 62,370 (21,385) were self-employed. Among those age 75 and over, of the 53,130 and 23,845 men and women who were working, 28,480 and 8,220 were self-employed, respectively.

5. In the remainder of the paper, 'employed' refers to the paid employed and self-employed. Unpaid family workers are excluded.

6. The numbers (44.4% and 29.4%) differ from those mentioned earlier (44.1% and 28.6%) since unpaid family workers are excluded here.

7. Examining non-farm self-employment is also important since it removes the effect of the relative decline of the agriculture sector within the ranks of the self-employed over that period. As a proportion of working senior men, total self-employment declined by 9.1 percentage points between 1996 and 2006, but the proportion of the non-farm self-employed declined by only 1.8 percentage points.

8. Of the 84,205 (29,610) men (women) who were unincorporated, 62,430 (23,805) did not have paid employees.

9. This section pertains only to 2006.

10. This proxy was also used by Uppal (2010).

11. It is necessary to remove the employment income of individuals from our definition of adjusted family income since there is a direct relationship between self-employment (and paid employment) and employment income. However, other sources of income from all family members were included (e.g., pension income, transfers, dividends, and capital gains) as well as the employment income of other family members.

12. Similar results were found when self-employed farmers were removed from the sample.

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Retirement, health and employment among those 55 plus

Jungwee Park

For older workers, control over the timing and circumstances of their retirement is crucial to their economic well-being. At the same time, the retention of older workers is a significant issue for policy makers and employers in an aging society. The motivations to remain on the job vary according to the circumstances of older workers and those who remain on the job have different preferences in the workplace than their younger counterparts. Thus, a better understanding of the characteristics of older workers in various stages of retirement may help inform employer practices and public policies.

Since older workers are not a homogeneous group, information on the socio-economic, employment, and health-related characteristics of specific groups will contribute to understanding their labour supply patterns (Wegman and McGee 2004). Retirement decisions are closely associated with workers' capabilities, limitations and needs in the labour market. Older workers' health is an especially important aspect of their labour market activity: some hypothesize that physical and mental health and associated disabilities may be barriers to the employability of older workers (Nauta 2005). Similarly, poor health has been associated with early exits from the labour market (Park 2010).

Many studies, however, treat older workers as a single group with little attention paid to their retirement history. Due to data limitations, retirement experience or partial retirement status were rarely included in analyses. This study attempts to fill the information gap on distinct states of retirement among older workers in terms of their links to health and labour market characteristics. It presents the sociodemographic characteristics of four different retirement situations:

- never retired
- partially retired
- fully retired
- previously retired but returned to work.

The article outlines the characteristics of these four groups and discusses how they are associated with work hours, work patterns and occupation. Most findings are adjusted to account for the differing age and sex characteristics of the groups.

Data originate from the 2009 Canadian Community Health Survey (CCHS) – Healthy Aging, designed to better understand the aging process of Canadians. It contains information on health and well-being, social support and participation, and work and retirement transitions (see *Data source and definitions*). Since the CCHS is a cross-sectional survey, it is not possible to trace the employment and retirement histories of respondents. On the other hand, this data source contains new information on the association between retirement characteristics and the socio-economic and health status of older Canadians. Moreover, some retrospective questions included in the survey are useful in determining past retirement experiences.

Four retirement groups

Using several CCHS questions on retirement, four mutually exclusive groups of older people were identified:[1] never retired, partially retired, fully retired, and returned workers.

The never-retired are currently in the labour force and have never retired from a job. Partial retirement is based on self-reporting. The retired population includes those who report themselves as completely retired, not in the labour force and receiving 50% or more of their total income from retirement income sources such as Old Age Security (OAS) and the Guaranteed Income Supplement (GIS), the Canada Pension Plan or the Quebec Pension Plan (CPP/QPP), investments, dividends, retirement pensions, superannuation and annuities. Returned workers are currently in the labour force and not retired, either fully or partially, but indicate that they had previously been retired.

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Data source and definitions

The Canadian Community Health Survey (CCHS) – Healthy Aging is one of the focused-content cycles of the CCHS. The survey was designed to collect new information on the factors, influences and processes that contribute to healthy aging through a multidisciplinary approach including health, social and economic determinants. The survey focuses on the health of Canadians age 45 and over by examining the factors that affect healthy aging, such as general health and well-being, physical activity, use of health care services, social participation, as well as work and retirement transitions.

The CCHS – Healthy Aging targets persons age 45 years and over living in private dwellings in the ten provinces and was conducted between December 2008 and November 2009. Residents of the three territories, persons living on Indian Reserves or Crown lands, those residing in institutions, full-time members of the Canadian Forces and residents of certain remote regions are excluded from this survey. In total, 41,496 of the selected households were in-scope for the survey. Out of this sample, 33,517 agreed to participate in the survey, resulting in an overall household-level response rate of 81% (Statistics Canada 2010). This study includes those age 55 to 84 and provides complete information on retirement. Those who never worked for pay are excluded. The retirement status of those age 75 to 84 was measured using the information on income sources and self-reported retirement status since the CCHS asked the question on working status only to respondents age 74 and younger the previous week. For the calculation of retirement age, respondents indicating they had retired before age 40 were excluded. The final sample size for the analysis was 19,774.

To account for the survey design effects, coefficients of variation and p-values were estimated and significance tests were performed using the bootstrap method. The significance level was set at $p<0.05$.

Shift work refers to anything other than a regular daytime schedule (evening, night, rotating or split shifts).

The self-employed are those who worked mainly in their own businesses or professional practices, or on their own farms.

Occupation was collapsed into three groups: white collar (management; professional; technologist, technician or technical occupation; and administrative, financial or clerical), sales or service, and blue collar (trades, transport or equipment operator; farming, forestry, fishing or mining; and processing, manufacturing or utilities).

Self-perceived health: excellent, very good, good, fair or poor. Respondents who answered that their health was fair or poor were considered to have negative self-perceived health.

Self-perceived mental health: excellent, very good, good, fair or poor. Respondents who answered that their mental health was fair or poor were considered to have negative self-perceived mental health.

Life satisfaction: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied. Respondents who answered very dissatisfied or dissatisfied were considered to have life dissatisfaction.

Self-perceived life stress: response categories for the amount of stress experienced most days included: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful. Respondents who answered "quite a bit" or "extremely" stressful were classified as having high self-perceived life stress.

Self-perceived work stress at the main job or business in the past 12 months was measured by asking whether most days at work were not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful. Respondents who answered quite a bit or extremely stressful were classified as having high self-perceived work stress.

Functional health indicators provide a description of an individual's overall functional health based on the following attributes: vision, hearing, ambulation (ability to get around), cognition (memory and thinking) and pain (for more information, see Feeny et al. 2002).

Daily smokers were defined as those who smoked cigarettes every day.

Heavy drinking was measured by asking respondents the number of times in the past year they had had 5 or more alcoholic drinks on one occasion. Having done so at least once per month (or 12 or more times in the past year for cycle 1) was classified as heavy monthly drinking.

Physical inactivity was based on total accumulated energy expenditure (EE) during leisure time. EE was calculated using the reported frequency and duration of all of a respondent's leisure-time physical activities in the three months before the interview and the metabolic energy demand (MET value) of each activity, which was independently established. Respondents with high or moderate EE (1.5 or more) were considered **physically active**, while those with low EE (less than 1.5) were considered **inactive** (for more information, see Statistics Canada 1995 and Stephens et al. 1986).

Body mass index (BMI) is calculated by dividing weight in kilograms by height in metres squared. **Obesity** is defined by a BMI of 30 or more.

Nutritional risk measures whether respondents are at high nutritional risk. The questions ask about respondents' eating habits on a typical day. They are based on an 8-item nutritional risk screening index (SCREEN II-AB) designed to identify risk for impaired nutritional states of older adults in community living. Each response category for each item is assigned a score. The maximum score for all summed items is 48, with a cut-off point of < 38, indicating high nutritional risk (for more information, see Keller et al. 2005, and Beath and Keller 2007).

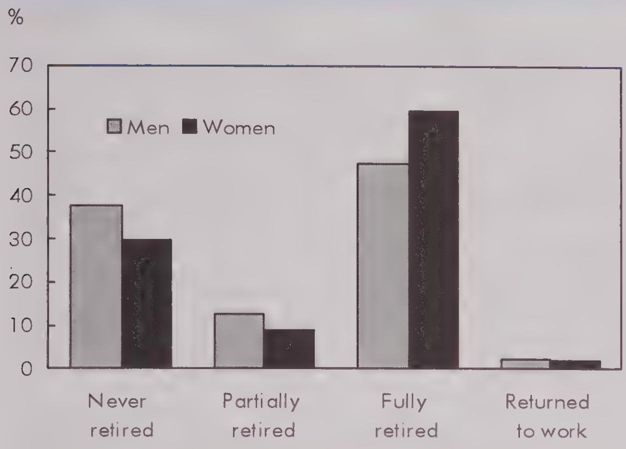
Social Support measures four categories of social support:

- **emotional or informational support**—the expression of positive affect, empathetic understanding, and the encouragement of expression of feelings; the offering of advice, information, guidance or feedback
- **tangible support**—the provision of material aid or behavioural assistance
- **positive social interaction**—the availability of other persons with whom to positively interact
- **affection**—involving expressions of love and affection.

Higher scores indicate higher levels of social support (for more information, see Sherbourne and Stewart 1991).

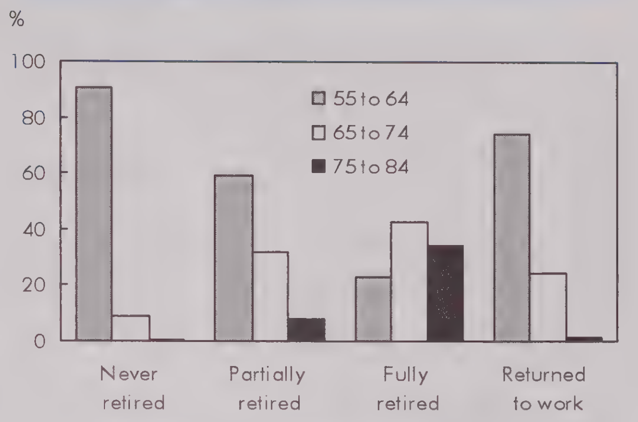
Sense of belonging to local community was measured using answers falling into four categories: very strong, somewhat strong, somewhat weak, or very weak. Respondents who answered very strong or somewhat strong were classified as having high community belonging.

Chart A More men age 55 to 84 in labour force than women



Source: Canadian Community Health Survey (CCHS) – Healthy Aging, 2009.

Chart B Majority of the never-retired under age 65



Source: Canadian Community Health Survey (CCHS) – Healthy Aging, 2009.

Women more likely to be retired

The demographic make-up of the four retirement groups varied considerably. Compared with women age 55 and over, a higher proportion of similarly aged men was still attached to the labour force. While 60% of women were fully retired and out of the labour force, just under one-half of men were in similar circumstances (Chart A). Men were more likely than women to be never-retired (38% versus 30%) and partially retired (13% versus 9%). Less than 3% of both women and men reported returning to work from retirement.

Among those who had never retired, the majority was under the age of 65 (Chart B). Almost three-quarters of those who returned to work were between the ages of 55 and 64. Many may have taken early retirement before returning to the labour force.

About one-third of partial retirees were age 65 to 74. Barely 1% of the never-retired, 8% of the partially retired and 2% of returnees were age 75 and over, whereas more than one-third of the fully retired belonged to this age group.

Since the four retirement groups differ by age and sex, most inter-group comparisons in this study are tested on age–sex standardized rates.[2] The adjusted statistics are used to determine whether differences exist in certain variables after controlling for age and sex. It is particularly important to eliminate the age–group effect when comparing conditions potentially affected by age, like health.

Retirees at bottom of income distribution

The fully retired were more likely than the never-retired to be in lower income quintiles (Table 1). Almost 60% of retirees (55% of men and 62% of women) belonged to the lowest two income quintiles compared with less than 30% of those who never retired (24% of men and 30% of women [data not shown]). Moreover, more than 40% of the retired reported that they had less than $25,000 in savings and investments.[3]

These data indicate that a sizeable minority of older workers may continue working out of necessity. On the other hand, financially secure and well-educated older workers are also more likely to remain employed (Uppal 2010). And there seems to be a ready market for their skills. More than one-third of returned workers were among the highest income quintile compared with only 8% of those who were fully retired.

Although income is closely related to current employment status, that may not be the case for wealth. Almost two-thirds of fully or partially retired workers were mortgage-free homeowners compared with about one-half of the never-retired and returnees. The implicit income generated by home equity is an

Table 1 Population age 55 to 84 by selected sociodemographic characteristics and retirement status, 2009

	Never retired	Partially retired	Fully retired	Returned to work
		%		
Income quintile				
First	10.0	16.3**	31.5*	5.9E*
Second	16.4	20.0**	27.7*	18.0E
Third	20.1	20.3	19.2	17.3
Fourth	23.8	21.8	13.8*	24.0
Fifth	29.7	21.5*	7.8*	34.9
Source of personal income				
Earnings	93.0	41.8*	1.5*	77.4*
Transfers	1.7	7.4**	25.6*	F
Savings	1.2	45.3*	70.1*	16.8E*
Other income	2.7	4.2E	2.9	F
No income	1.4E	F	F	F
Home ownership				
Mortgage paid off	47.6	62.9*	66.7*	50.3
Mortgaged	36.9	24.1*	11.6*	38.3
Rent	13.3	11.0*	18.3**	8.8E*
Other	1.2E	1.4E	2.2**	F
Educational attainment				
Less than high school graduation	15.2	17.5	35.8*	12.5E
High school graduation	20.1	18.0	17.3**	18.6
Some postsecondary education	6.1	5.7	4.7**	4.1E
Postsecondary degree	58.7	58.9	42.3*	64.8
Marital status				
Married/common-law	79.1	79.0	67.9*	77.7
Divorced/separated	11.8	9.2**	8.4**	13.5
Widowed	3.9	6.6**	19.7*	4.9E**
Never married	5.2	5.2	4.0**	3.9E
Family type				
Unattached individual	15.1	17.8*	25.8*	14.8
Couple without children	49.8	61.8**	57.7**	57.1
Couple with children	22.3	12.6*	6.2*	17.4E
Single parent	4.3	2.4E**	3.5**	3.8E
Other	8.5	5.3**	6.9**	6.9E
Visible minority	15.0	5.3*	7.5*	F
Immigrant	30.7	21.0*	24.6*	17.9E*

* significantly different from the never-retired before and after age–sex adjustment ($p<0.05$)
** significantly different from the never-retired before but not after age–sex adjustment ($p<0.05$)
Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

important source of economic well-being for home-owners. Mortgage-free home ownership may thus partially compensate for the income reduction due to full or partial retirement.[4]

The main source of income tends to differ among the four groups. Not surprisingly, the never-retired rely mainly on earnings including wages, salaries and self-employment income. Similarly, almost 80% of returnees reported earnings as their main source of personal income.

The main income sources of the completely retired were savings, including pension benefits (70%) and government transfers (26%), like OAS and GIS. Women retirees tend to rely on transfers more than men (32% versus 17%). The proportion of savings in personal income for men was 78% while that for women was 63%.

The income of partial retirees comes from a combination of employment earnings and personal savings including dividends and interest, benefits

from CPP/QPP, job-related retirement pensions and RRSPs.

Returnees have highest levels of education

Those who returned to work had the highest average level of educational attainment. Among this group, 65% had postsecondary degrees compared with 42% of the fully retired. Only 13% of returned workers had less than a high school education compared to 36% of retirees. These differences were statistically significant after adjusting for age and sex. Thus, it is not merely a result of the relatively younger average age of returned workers. A relatively high level of human capital is an advantage for those wishing to come out of retirement and re-enter the workforce. Other research shows that returned workers tend to have valuable skills and experience gained from previous employment (Schellenberg et al. 2005).

Fully retired groups showed significantly higher rates of being widowed even after controlling for age composition. With similar controls in place, fully retired women were most likely to live alone. Of the fully retired, 20% were widowed and more than one-quarter were unattached individuals compared with 4% and 15%, respectively, for those who never retired.

Compared with the retired, a higher proportion of employed women were married or living common-law. Unlike younger cohorts, married women over the age of 55 were more likely to work than single women the same age.

The proportion of immigrants was highest in the never-retired group (31%). Similarly, the proportion of visible minority workers was highest among those who never retired (15%). This corresponds with data on retirement age. Among workers fully retired in 2009, the members of visible minority groups and immigrant workers had retired, on average, two years later than other retirees.

Never retired most likely to work full time

In general, partial retirement equates to part-time work. Almost 70% of partial retirees worked part time—less than 30 hours per week—compared with only 11% of the never-retired (Table 2). More than 1 in 5 returnees also worked part time (22%). Of those who never retired, 31% worked more than 40 hours per week, as did 28% of returned workers. On the other hand, only 8% of partial retirees worked more than 40 hours per week.

Non-standard work arrangements were also more prevalent among the partially retired and returnee groups. More than one-third of those who had returned to the labour force from retirement worked as shift workers compared to 21% of the never-retired.

Partial retirement may occur in the main job before retirement as some employers have transitional programs offering reduced hours or responsibilities. More often, it involves a job change or a transition into self-employment (Honig and Hanoch 1985). The partially retired had a significantly higher rate of self-employment than those who had never retired (43% versus 24%). They may have chosen the self-employment path to stay involved in the labour market. Many partial retirees may also prefer self-employment as it usually provides more flexibility and imposes fewer constraints on the timing of retirement (Uppal 2011).

Almost two-thirds of returned workers held white-collar jobs (see *Data source and definitions*), which was significantly higher than the rates for the never-retired and partially retired groups. The high

Table 2 Population age 55 to 74[1] by selected labour market characteristics and retirement status, 2009

	Never retired	Partially retired	Returned to work
		%	
Work hours per week			
Less than 30	11.1	68.8*	21.7[E]*
30 to 40	58.3	23.6*	50.3
More than 40	30.6	7.6*	28.0
Shift work	21.1	32.5*	36.0*
Self-employed	23.7	42.6*	32.8*
Occupation			
White collar	56.5	54.1	64.4*
Sales/services	20.0	24.8**	20.8
Blue collar	23.6	21.1	14.7*

* significantly different from the never-retired before and after age–sex adjustment ($p<0.05$)
** significantly different from the never-retired before but not after age–sex adjustment ($p<0.05$)
1. The CCHS collects the information on labour market characteristics for individuals age 45 to 74.
Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

incidence of white-collar jobs among returned workers is consistent with their higher levels of educational attainment.

Overall, the work arrangements of the never-retired 55 and over are similar to those of workers age 45 to 54. Similar proportions of each group were self-employed, working shifts or in full-time jobs, and their occupational distributions were nearly identical.

Retirees have poorer health

Health varies by retirement status. The fully retired population has lower health status, according to several measures, than groups still attached to the labour force. Health status includes information based both on a five-category scale of self-perceived health and the number of chronic conditions. The number of chronic conditions[5] was included to capture the effect of objective health status and minimize potential biases of self-assessed health (Park 2010).

Even after adjusting for age differences, a higher proportion of retirees had multiple chronic conditions. More than one-half had at least three chronic conditions and one-quarter had five or more conditions (Table 3). Retired women were more likely than retired men to have chronic conditions. Almost 60% of women reported three or more chronic conditions compared with 49% of men. One-half of all retired women reported having high blood pressure (50%) or arthritis (48%) (see *Most prevalent chronic conditions*).

Table 3 Population age 55 to 84 by selected health indicators and retirement status, 2009

	Never retired	Partially retired	Fully retired	Returned to work
Health status		%		
3 or more chronic conditions	26.4	34.4**	52.5*	29.2***
5 or more chronic conditions	6.3	8.1	21.4*	9.5^{E}
Negative self-perceived health	11.6	10.5	23.6*	4.7^{E}*
Negative self-perceived mental health	3.8	3.4	6.0*	F
Life dissatisfaction	8.4	6.9	10.8*	5.6^{E}
High self-perceived life stress	25.2	11.9*	10.9*	23.7^{E}
High self-perceived work stress	31.4	12.8*	..	23.0*
Functional problem				
Memory and cognition	20.0	20.8	28.4*	19.1
Hearing	1.7	3.2^{E}*	6.0*	F
Walking	1.6	2.4^{E}	12.0*	F
Vision	79.2	79.3	82.3*	81.1
Pain	22.5	22.3	29.9*	20.2
Health behaviour				
Daily smoking	16.7	11.0*	11.2**	11.2^{E}*
Heavy drinking	5.8	5.2	2.7**	3.0^{E}**
Physical inactivity	14.9	16.0	36.7*	10.5^{E}**
Obesity	22.1	21.4	20.6	26.6^{E}
High nutritional risk	35.9	33.2	35.2	29.9
Community support and participation				
Community belonging	33.9	29.1**	31.2*	36.1***
Participation in volunteer/charity activity (weekly or more)	68.9	78.2*	76.6*	78.9**
Social support		mean score		
Emotional support (out of maximum 32)	27.2	27.2	26.8*	28.1
Tangible support (16)	13.5	13.6	13.4	13.7
Affection (12)	10.7	10.8	10.5*	10.8
Positive social interaction (16)	13.9	13.9	13.6*	14.1

* significantly different from the never-retired before and after age–sex adjustment ($p<0.05$)
** significantly different from the never-retired before but not after age–sex adjustment ($p<0.05$)
*** significantly different from the never-retired ($p<0.05$) only after age–sex adjustment
Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

Almost 1 in 4 retirees (24%) perceived their overall health as fair or poor compared with 11% for the partially retired. And 11% of retirees, or more than 1 in 10, expressed life dissatisfaction, versus 7% for the partially retired. In terms of functional health, again a higher proportion of retirees had problems with cognition, hearing, walking and vision than the never-retired, partially retired and return-to-work groups. Chronic pain was also experienced by 30% of retirees.

Retirees were much more likely than the other groups to be physically inactive (37% versus 11% of returned workers).The lower level of physical activity of the retired is in line with other indicators of relatively poor health for this group.

In addition to the relatively low health status of the retired, they reported receiving less social support. On average, their levels of emotional support, positive social interaction, affection, and community belonging were significantly lower than those of never-retired workers. Retirement may separate many from the social support that the workplace and co-workers can provide.

Perhaps reflecting the flexibility of their work arrangements, partial retirees seemed to be the least stressed workers. Only 13% perceived their work to be quite a bit or extremely stressful compared with 31% of never-retired workers and 23% of returned workers. The preference of older workers for less-demanding employment is an important motivation for partial retirement (Honig and Hanoch 1985). Less-demanding jobs are usually related to lower levels of work stress. Due to their overall lower employment hours, the partially retired would have more personal and leisure time, contributing to a more positive work–life balance. Accordingly, partial retirees participated in community activities like volunteer and charity work more frequently than never-retired workers.

Retirement plans and perceptions

The lower health status of retirees is reflected in their self-perceived ability to work. Ability to work was scored on a 10-point scale, where 10 indicates a full ability to work and 0 denotes a complete inability to work. The mean ability-to-work score for the retired was 5.3, compared with 9.2 for never-retired and 9.3 for returned workers (Table 4).

Compared with the age of retirement of previously retired groups, the planned age for those who had not yet retired was much higher (a mean of 66 for men and 64 for women). In comparison, the average age of retirement for the partially retired was 60 for men and 58 for women, while that of the fully retired was also 60 for men and 58 for women. The mean retirement age of returned workers was 53 for both men and women.

The relatively late planned retirement of the never-retired may be associated with their level of financial preparedness. Almost 40% of never-retired workers

Table 4 Population age 55 to 84 by retirement patterns and perceptions, and retirement status, 2009

	Never retired	Partially retired	Fully retired	Returned to work
		age		
Mean retirement age[1]	65.4	59.0	58.9	53.3
Median retirement age[1]	65.0	60.0	60.0	54.0
		mean score		
Self-perceived ability to work (maximum 10)	9.2	8.2*	5.3*	9.3
		%		
Financial plan for retirement				
More than adequate/adequate	62.6	70.5**	..	..
Barely adequate	23.7	17.7**	..	..
Inadequate	13.7	11.8	..	..
Employer pension plan other than CPP/QPP	60.7	62.0***	..	77.7*

* significantly different from the never-retired before and after age–sex adjustment ($p<0.05$)
** significantly different from the never-retired before but not after age–sex adjustment ($p<0.05$)
*** significantly different from the never-retired ($p<0.05$) only after age–sex adjustment
1. Refers to age at first full or partial retirement, or planned age of retirement for the never-retired.
Note: CPP/QPP = Canada Pension Plan/Quebec Pension Plan.
Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

reported that their financial plans for retirement were less than adequate. Moreover, more than one-third reported that they had less than $25,000 in savings and investments. The never-retired were also less likely to contribute to employer pension plans compared with returned workers and partial retirees.

Reasons for retirement and return

The groups who had retired at least once—the fully retired, the partially retired and returnees—were asked to choose which of 11 reasons contributed to their decision to retire.[6] The most common reason for retirement was that it was financially possible (Table 5). However, while 46% of the partially retired reported retiring because they were financially able to do so, only 34% of the fully retired and 28% of returnees did so.[7] Men were more likely than women to retire because of financial security: 40% of men stated this reason compared to 29% of women.

Among returnees, one-half indicated financial considerations as a reason for returning to the labour force (Table 6). Women were more likely than men to return to work for financial reasons (57% versus 48%). On the other hand, one-half of returnees also reported they were back on the job because they liked to work or wanted to be active.

Table 5 Reasons for full or partial retirement,[1] 2009

	Partially retired	Fully retired	Returned to work
		%	
Financially possible	46*	34	28
Completed required years of service	41*	29	26
Wanted to stop work	31	33	20E*
Pursue other activities	23*	13	18E*
Employer incentives	19*	8	15E*
Health/disability	16*	24	14E*
Agreement with spouse/partner	14	16	8E*
Organizational restructuring	12	9	17E*
Caregiving	6E	7	4E*
Mandatory policy	4E	4	F
Other	5E	7	17E

* significantly different from the retired ($p<0.05$)
1. For those with a single retirement experience.
Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

Table 6 Reasons for returning to work, 2009

	%
Like working/being active	52
Financial considerations	52
Interesting work opportunity	30
Do not like retirement	29
Want challenge	25
Want to make contribution	13
Prefer gradual retirement	8
Improvement in health	5
Caregiving duties no longer required	2
Other	5

Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

Conclusion

Older workers end their employment careers in different ways and for a variety of reasons. Many remain on the job past the point when others retire, some opt for partial retirement, and others who have retired subsequently re-enter the workforce. Many returnees and partial retirees work part time or as shift workers, or are self-employed.

The challenges faced by the four groups are quite different. Many who had never retired were concerned about their financial preparedness for retirement; partial and full retirees had relatively low levels of income; many of the fully retired reported poor health, which may be related to their withdrawal from the labour force; and many returned workers had apparently retired involuntarily.

The results indicate that employers and policy makers cannot treat older workers as a homogenous group. Many older workers will have difficulty remaining on the job due to poor health, even if they are not financially ready to retire. Economic conditions will force some into retirement before they are ready, and they will be likely to look for opportunities to continue their careers. Others will stay on the job as long as they can to improve their financial security in their senior years. Many would prefer a more

Most prevalent chronic conditions

For men age 55 to 84, the most prevalent chronic condition was high blood pressure (33% for the employed and 46% for the retired) (Table 7). For employed women, arthritis was the most prevalent (34%) chronic condition. Other common conditions reported by older workers include back problems, diabetes, heart disease, thyroid conditions, osteoporosis, migraines, cataracts and asthma. The five most prevalent chronic conditions for the retired include high blood pressure, arthritis, back problems, heart disease and cataracts.

Table 7 Most prevalent chronic conditions among population age 55 to 84,[1] 2009

	Employed			Retired		
	All	Men	Women	All	Men	Women
	%					
High blood pressure	**32**	**33**	**31**	**48**	**46**	**50**
Arthritis	**27**	**21**	**34**	**41**	**34**	**48**
Back problems	**24**	**23**	**24**	**29**	**27**	**30**
Diabetes	**11**	**13**	8	17	**21**	15
Heart disease	**9**	**12**	6	**20**	**26**	16
Thyroid condition	**9**	4	**16**	14	7	19
Osteoporosis	8	2	**15**	17	5	**27**
Migraine headaches	8	5	12	5	3	7
Cataracts	7	6	7	**21**	17	**23**
Asthma	6	5	8	9	7	10
Anxiety disorder	5	3	6	5	3	6
Bowel disorder	5	3	7	7	4	9
Stomach or intestinal ulcers	4	3	5	5	4	5
Urinary incontinence	4	2	5	10	8	12
Cancer	3	3	3	5	5	4

1. Five most prevalent conditions for each group appear in **bold**.
Source: Canadian Community Health Survey (CCHS) – Healthy Aging.

gradual transition into retirement by way of reduced or more flexible hours. And finally, some are financially and psychologically prepared for retirement and thus unlikely to be enticed back into the labour market.

Perspectives

Notes

1. The questions are both subjective and objective. If subjective and objective retirement indicators of a respondent conflict with each other, the data are excluded from analysis—the number of excluded cases is less than 4% of the sample for each group. Since partial retirement is a subjective concept, all individuals who self-report partial retirement are considered partial retirees.
2. Adjusted rates have no direct meaning in themselves. They are meaningful only in comparison with other similarly computed rates. Tables in this article present non-adjusted rates as well as results of significance tests based on adjusted rates.
3. The value of the principal residence and any employer pension plans were excluded.
4. When estimates of the services provided by the equity invested in housing are added to traditional estimates of income, the income of retirement-age households is increased by 10% to 13% for those age 60 to 69 and by 12% to 15% for those age 70 and over (Brown et al. 2010).
5. The number of chronic conditions was calculated based on respondents' answers to questions about whether they had been diagnosed by professionals as having any of the following chronic conditions: asthma, arthritis, osteoporosis, high blood pressure, back problems, migraine headaches, chronic bronchitis, emphysema, chronic obstructive pulmonary disorder (COPD), diabetes, stroke, heart disease, cancer, stomach or intestinal ulcers, urinary incontinence, Alzheimer's disease or other dementia, bowel disorder/Crohn's disease or colitis, Parkinson's disease, thyroid conditions, cataracts, glaucoma, mood disorders, and anxiety disorders.
6. Retirement for health reasons may be underestimated. Older retirees who retired due to health problems might have died in the meantime and not be included in the survey.
7. To obtain reasons for partial retirement, cases with multiple retirement experiences were excluded in Table 5.

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Inside the labour market downturn

Jason Gilmore and Sébastien LaRochelle-Côté

Many labour market reports focus on standard labour market measures, such as the number of employed persons, the number of jobs lost, and the unemployment rate. For example, LaRochelle-Côté and Gilmore (2009) reported that of the 400,000 drop in employment over the first 12 months of the downturn, much of the decrease was in manufacturing, construction, natural resources, transportation, and trades industries. Younger workers, men, and individuals with lower educational attainment experienced disproportionate job losses. The unemployment rate, the most common measure of labour market slack, increased to a peak of 8.7% in August 2009 and subsequently declined to reach 7.6% in December 2010.

While employment and unemployment trends are the main labour market indicators, subpopulations, like involuntary part-timers, provide further information about the state of the labour market. Moreover, the numbers of those not participating in the labour force (or 'non-participants') can vary considerably with economic conditions (Statistics Canada 1999 and Hipple 2010). As such, a broader slate of labour market indicators can provide a more complete picture of how labour supply and demand adjust to economic events.

This article examines recent changes within the employed, unemployed, and not-in-the-labour-force populations, and investigates whether some subcategories contributed more to the changes within each group. It also examines, where possible, how these changes compared to those which occurred during the downturns of the early 1980s and early 1990s. Finally, the paper discusses alternative measures of unemployment that include some of these subcategories in the calculations. The article covers the period from October 2008, just prior to the employment downturn, to October 2010 (see *Data source and definitions*).

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Data source and definitions

This study uses data from the monthly Labour Force Survey (LFS). The LFS collects information on the labour market activities of the population age 15 years and over, excluding residents of collective dwellings and aboriginal settlements, and full-time members of the Canadian Forces. Employed individuals are defined as those who worked at a job or business during the reference week of the survey.

In the LFS, seasonally adjusted information is available for major indicators, but not for a number of detailed demographic and job characteristics. These characteristics must therefore be examined on a year-over-year (unadjusted) basis. Since employment began to drop in November 2008, the period from October 2008 to October 2010 represents an opportunity to study the evolution of the non-working population through decline and recovery. Unless otherwise stated, the data in this paper are not seasonally adjusted.

In the LFS, the working-age population (15 years and over) is divided into three categories: the employed, who were working either as paid employees or in self-employment during the survey reference week; the unemployed, or those who were *actively* looking for a job during the reference week; and individuals not in the labour force—those who were not actively looking for work (for instance because they were retired or students, or staying at home). However, some of these people could have been available for work even though they did not search for work during the survey reference week. Discouraged workers, for example, fall into this category and are therefore not counted as unemployed.

Working or not?

In October 2008, the working-age population was 27 million (Table 1). Of these, 17.2 million were employed—an employment rate of 64%. With 1.1 million unemployed, the labour force numbered 18.3 million and the unemployment rate was 6.1%. Another

8.7 million were not participating in the labour force, just under one-third of the working-age population.

As has been well-documented, employment declined in the first year of the downturn and then recovered during the second year, for little net change over the entire period. At the same time, unemployment increased by 341,000 (or 31%), while the number of non-participants increased by 458,000 (5%). Because employment declined over the period (by 66,000), the unemployed and not-in-the-labour-force components entirely accounted for the increase of 733,000 in the working-age population between October 2008 and October 2010.

Table 1 Employed, unemployed, and individuals not in the labour force

	October 2008	October 2009	October 2010	Change from October 2008 to October 2010	
		'000		'000	%
Total population	**27,032**	**27,418**	**27,765**	**733**	**2.7**
Employed	17,175	16,804	17,109	-66	-0.4
Unemployed	1,114	1,517	1,455	341	30.7
Not in the labour force	8,743	9,097	9,201	458	5.2

Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

Three downturns, three stories

The recent labour market downturn has taken a much different course than the downturns of the early 1980s and early 1990s. However, each of the earlier downturns also had its own unique profile.

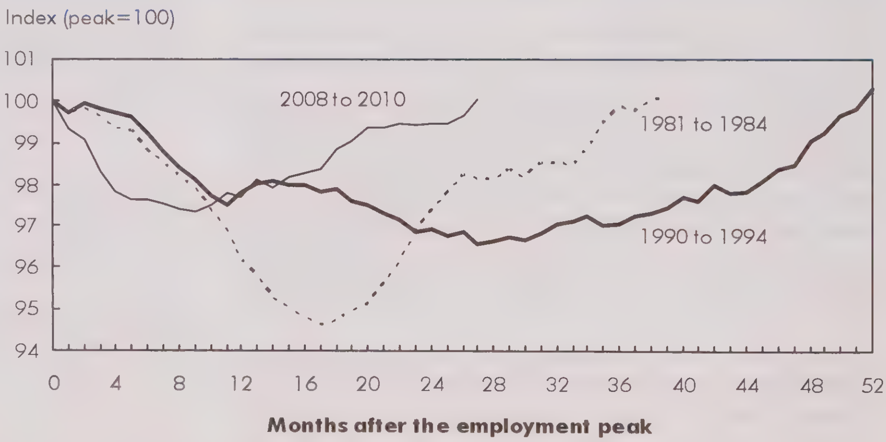
The downturn of the early 1980s was characterized by the greatest drop in employment (Chart A). After the employment peak in June 1981, employment fell sharply and was still 5% below the peak 17 months later. Employment finally recovered to its pre-recession level 39 months after the beginning of the downturn.

In the early 1990s, employment did not initially decline as steeply as in the early 1980s, but took longer to recover. In the first 12 months of the downturn, employment declined by about 2%, remained stable for a while, and fell again to a new low in August 1992. The labour market then picked up and surpassed the employment levels of its previous peak 52 months after the initial downturn.

In the recent downturn, employment fell faster in the first few months than in the 1980s and 1990s, but recovered quicker. This time, employment took 27 months to fully recover to its October 2008 level. The state of the labour market was therefore quite different in the two years that followed the onset of the previous two downturns.

The number of unemployed persons and non-participants also differed across the downturns (Table 2). Two years after the beginning of the 1980s and 1990s downturns, the total 'not employed' population (comprising the unemployed and those not in

Chart A Index of employment during the last 3 downturns



Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

the labour force) was up by more than 12%, compared to 8% during the recent downturn. Two years into the recent downturn and into the 1990s downturn, the increase in the number of individuals without a job was almost evenly divided between the unemployed and those not in the labour force. In the early 1980s, unemployment was the main driving force behind the increase in the number of individuals without a job.

The unemployed

Between October 2008 and October 2010, the unemployed population increased by more than 30%. However, not all the unemployed were necessarily looking for a job because they had been laid-off. Quits, new entrants or re-entrants, and future starts[1] can also represent a sizeable portion of the unemployed. Some quit their jobs in anticipation of a better one, others enter the labour market after completing school, and others might come back to the labour market after spending time off with their families. Unemployment is therefore not predominantly the result of layoffs, even during downturns.

Examples of these lesser-known categories of the unemployed are 'new entrants' and 're-entrants,' who typically represent about 45% of the unemployed (Table 3). New entrants have no previous work experience and are predominantly younger individuals.[2] Re-entrants have some work experience and are re-entering the labour force from non-participation. Over the period, new entrants and re-entrants increased by about 33%, accounting for nearly one-half of the increase in unemployment (48%). Interestingly, more than 50% of the increase in new entrants and re-entrants was among those reporting that they were "maintaining a home" prior to entering the labour force. New entrants and re-entrants are usually more likely to report that they were going to school.

Quits—individuals voluntarily leaving their jobs—represented another 12% of the unemployed at the beginning of the recent downturn, falling to 9% two years later. Quits tend to be pro-cyclical: the quit rate increases when job opportunities abound and it decreases in downturns.

Among those who were not looking for work, future starts increased little over the period (2%). Temporary layoffs[3] increased by 14%, still less than one-half the rate of increase in total unemployment (30%). As a result, these two categories represented an even smaller portion of the unemployed at the end of the period than at the beginning.

Two other categories more closely related to prevailing economic conditions are those who *lost* their jobs as a result of a permanent layoff, and those who had been out of work for more than one year (reason unknown).[4] Two years after the onset of the recent downturn, the number of permanent layoffs increased at the same pace as unemployment as a whole (30%), while the number of people for whom the reason was not known increased by 74%. Together, these two categories accounted for nearly 50% of the increase in the number of the unemployed over the two years (the other half was due to new entrants and re-entrants). During the first two years of the two earlier downturns, however, the number of permanent layoffs and the number of individuals who had been out of work for at least one year (reason unknown) increased much faster (Table 4). Permanent layoffs, for instance, increased by 57% in the early 1990s and by 116% in the early 1980s—compared to

Table 2 Comparisons with changes in earlier downturns, 2 years after the employment peak

	October 2008 to October 2010		April 1990 to April 1992		June 1981 to June 1983	
	'000	%	'000	%	'000	%
Total population	**733.4**	**2.7**	**616.3**	**2.9**	**540.4**	**2.9**
Total employed	-66.4	-0.4	-410.4	-3.1	-354.2	-3.1
Total not employed	799.9	8.1	1,026.7	12.8	894.6	12.0
Unemployed	341.4	30.7	453.2	42.1	669.4	75.4
Not in the labour force	458.4	5.2	573.5	8.3	225.2	3.4

Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

Table 3 Categories of unemployed

	October 2008	October 2010	Change		October 2008	October 2010	Change
	'000		'000	%	% distribution		
All unemployed	**1,024.1**	**1,331.7**	**307.6**	**30.0**	**100.0**	**100.0**	**100.0**
Job searchers	946.3	1,246.6	300.3	31.7	92.4	93.6	97.6
Quits	120.3	121.3	1.0	0.8	11.7	9.1	0.3
Permanent layoffs	287.3	373.7	86.4	30.1	28.1	28.1	28.1
Reason unknown[1]	84.9	148.0	63.1	74.3	8.3	11.1	20.5
New and re-entrants	453.7	603.5	149.8	33.0	44.3	45.3	48.7
Temporary layoffs	46.2	52.8	6.6	14.3	4.5	4.0	2.1
Future starts	31.7	32.2	0.5	1.6	3.1	2.4	0.2

1. Last worked more than 1 year ago.
Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

30% during the late 2000s. Hence, these two categories accounted for a much larger portion of the overall increase in the total unemployed population (more than 75%) in the 1980s and 1990s.

Overall, the unemployment rate increased faster during the two previous downturns. In seasonally adjusted terms, the unemployment rate increased from 6.1% to 7.8% between October 2008 and October 2010. Between April 1990 and April 1992, the unemployment rate increased from 7.6% to 10.7%; during the 1980s downturn, it rose from 7.2% to 12.4%.

Long-term unemployment

Some of those who lost their jobs in the immediate aftermath of the downturn might still be without a job, despite the employment growth from mid-2009 to mid-2010. Such long-term unemployment can impair an individual's ability to find a job when the economy improves (Blanchard and Diamond 1994, Jackman and Layard 1991, and Corak 1993)—it can also affect stress levels and psychological well-being (Clark and Oswald 1994, and Clark 2006), and household finances often deteriorate, especially for those who exhaust their employment insurance benefits (Micklewright and Nagy 1999).

Table 4 Change in categories of unemployed

	October 2008 to October 2010		April 1990 to April 1992		June 1981 to June 1983	
	'000	%	'000	%	'000	%
All unemployed	**307.6**	**30.0**	**475.8**	**42.8**	**645.9**	**73.3**
Job searchers	300.3	31.7	463.1	46.5	634.0	81.1
Quits	1.0	0.8	-15.3	-9.2	1.5	1.2
Permanent layoffs	86.4	30.1	274.5	57.3	331.9	115.8
Reason unknown[1]	63.1	74.3	109.5	142.0	143.1	265.0
New and re-entrants	149.8	33.0	94.4	34.6	157.4	50.2
Temporary layoffs	6.6	14.3	22.7	31.1	19.0	38.8
Future starts	0.5	1.6	-10.0	-22.8	-7.1	-14.1

1. Last worked more than 1 year ago.
Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

Table 5 Unemployment duration measures

	October 2008	October 2010	Change		October 2008	October 2010	Change
	'000		'000	%	% distribution		
All unemployed	**1,024.1**	**1,331.7**	**307.6**	**30.0**	**100.0**	**100.0**	**100.0**
1 to 4 weeks	425.8	455.3	29.5	6.9	41.6	34.2	9.6
5 to 25 weeks	414.5	541.6	127.1	30.7	40.5	40.7	41.3
26 to 51 weeks	72.4	146.5	74.1	102.3	7.1	11.0	24.1
52 weeks or more	79.8	156.1	76.3	95.6	7.8	11.7	24.8
Duration unknown[1]	31.7	32.2	0.5	1.6	3.1	2.4	0.2

1. Duration is unknown for unemployed future starts (i.e., job begins within 4 weeks).
Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

The Labour Force Survey collects information on the duration of joblessness for those who are currently unemployed and do not have a job that starts in the next four weeks. In October 2008, more than 80% of the unemployed had been without a job for 25 weeks or less—and more than 40% had been without a job for less than one month (Table 5). Only 15% had been without a job for at least 26 weeks.

The number of those who had been without a job for at least 52 weeks doubled during the two years. Together with those who had been without a job for at least 26 weeks, these workers represented almost 1 in 4 unemployed persons in October 2010.[5]

Long-term unemployment also rose during the first two years of the two previous downturns (Table 6). In 1990–1992, the number of individuals who had been unemployed for 52 weeks or more increased by 146%, and that number almost quadrupled during the downturn of the early 1980s. However, the share of the total unemployment increase that could be attributed to the long-term unemployed was about the same in all three downturns.

Some complementary measures to the unemployment rate that focus on long-term unemployment (Devereaux 1992 and Statistics Canada 1999) have been developed. The first of these rates, R1, includes only those who have been unemployed for at least one year. The second, R2, includes those who have been unemployed for at least three months. Both are meant to provide an indication of the economic hardship of long-term unemployment.

Table 6 Change in unemployment duration measures

	October 2008 to October 2010		April 1990 to April 1992		June 1981 to June 1983	
	'000	%	'000	%	'000	%
All unemployed	**307.6**	**30.0**	**475.8**	**42.8**	**645.9**	**73.3**
1 to 4 weeks	29.5	6.9	22.0	7.2	42.2	13.7
5 to 25 weeks	127.1	30.7	193.9	37.1	254.8	70.7
26 to 51 weeks	74.1	102.3	146.1	94.6	212.1	195.8
52 weeks or more	76.3	95.6	123.8	145.8	143.9	268.5
Duration unknown[1]	0.5	1.6	-10.0	-22.8	-7.1	-14.1

1. Duration is unknown for unemployed future starts (i.e., job begins within 4 weeks).
Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

Table 7 Alternative measures of unemployment: Long-term unemployed

	October 2008	October 2009	October 2010	Change from October 2008 to October 2010
			'000	
Number				
Standard unemployment level (R4)	1,024.1	1,387.6	1,331.7	307.6
Out of work for at least 1 year (R1)	79.7	135.6	156.1	76.4
Out of work for at least 3 months (R2)	299.5	548.2	472.4	172.9
Rate			%	
Standard unemployment level (R4)	5.6	7.6	7.2	1.6
Out of work for at least 1 year (R1)	0.4	0.7	0.8	0.4
Out of work for at least 3 months (R2)	1.6	3.0	2.6	1.0

Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

In October 2008, when the unemployment rate was at a historically low level, the long-term unemployment rate (R1) was 0.4% (Table 7). One year later, R1 had risen to 0.7%. Although the labour market continued to improve from October 2009 to October 2010, R1 continued rising to 0.8%. The R2 rate, meanwhile, rose from 1.6% in October 2008 to 3.0% one year later. By October 2010, it had eased slightly, to 2.6%.[6]

In terms of comparisons with the other downturns, R1 was 0.4% in June 1981; two years later it was 1.5%. In April 1990, R1 was 0.6%; two years later it was 1.5%. Similarly, R2 rose from 2.6% to 6.2% from June 1981 to June 1983, and from 3.8% to 6.5% from April 1990 to April 1992. So long-term unemployment in the recent downturn remained well below the levels experienced in earlier downturns.

Table 8 Categories of individuals not in the labour force

	October 2008	October 2010	Change		October 2008	October 2010	Change
	'000		'000	%	% distribution		
Total not in the labour force	**8,765.2**	**9,250.0**	**484.8**	**5.5**	**100.0**	**100.0**	**100.0**
Able to work, perceived							
labour market attachment	155.1	181.6	26.5	17.1	1.8	2.0	5.5
Discouraged searchers	21.7	29.9	8.2	37.8	0.2	0.3	1.7
Recently laid off and wanted work	49.3	67.7	18.4	37.3	0.6	0.7	3.8
Marginally attached	84.1	84.0	-0.1	-0.1	1.0	0.9	-0.0
Able to work, no perceived							
labour market attachment	7,980.8	8,416.1	435.3	5.5	91.1	91.0	89.8
Students[1]	1,440.3	1,688.9	248.6	17.3	16.4	18.3	51.3
Recently retired[1]	163.0	172.8	9.8	6.0	1.9	1.9	2.0
Other, at least 65 years of age[1]	3,663.8	3,833.1	169.3	4.6	41.8	41.4	34.9
Other, under 65 years of age[1]	2,713.7	2,721.3	7.6	0.3	31.0	29.4	1.6
Permanently unable to work	629.4	652.2	22.8	3.6	7.2	7.1	4.7

1. And not included in any of the other definitions.
Note: 'Recent' is defined as within the previous 12 months.
Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

How the supplementary measures of unemployment are calculated

Statistics Canada produces alternative measures of unemployment in accordance with the concepts and methods suggested by the International Labor Organization (Hussmanns et al. 1992). The R1, R2 and R3 rates are available dating back to 1976; the others are available back to 1997. Formally, they are calculated as follows:

R1 = [unemployed 52 weeks or more / (employed + unemployed)] * 100

R2 = [unemployed 12 weeks or more / (employed + unemployed)] * 100

R3 = [(unemployed – (15-year-olds + passive job searchers + short-term future starts + searchers unavailable for work due to personal or family responsibilities) + full-time students looking for full-time work) / ((employed – 15-year-olds) + (unemployed – (15-year-olds + passive job searchers + short-term future starts + searchers unavailable for work due to personal or family responsibilities)) + full-time students looking for full-time work)] * 100

R4 = [unemployed / (employed + unemployed)] * 100

R5 = [(unemployed + discouraged searchers) / (employed + unemployed + discouraged searchers)] * 100

R6 = [(unemployed + waiting for recall + waiting for replies + long-term future starts) / (employed + unemployed + waiting for recall + waiting for replies + long-term future starts)] * 100

R7 = [(unemployed looking for full-time work + unemployed looking for part-time work * average hours of part-time workers at main job / average hours of full-time workers at main job + involuntary part-timers * (1 - average hours of involuntary part-timers at main job / average hours of full-time workers at main job)) / (employed full-time + employed part-time * average hours of part-time workers at main job / average hours of full-time workers at main job + unemployed looking for full-time work + unemployed looking for part-time work * average hours of part-time workers at main job / average hours of full-time workers at main job)] * 100

R8 = [(unemployed + discouraged searchers + waiting for recall + waiting for replies + long-term future starts + involuntary part-timers * (1 - average hours of involuntary part-timers at main job / average hours of full-time workers at main job)) / (employed + unemployed + discouraged searchers + waiting for recall + waiting for replies + long-term future starts)] * 100

Non-participants

Between October 2008 and October 2010, the 'not-in-the-labour-force' population—or non-participants—increased by 6%, or 485,000 people (Table 8). While non-participants include retirees, stay-at-home parents, students, and those not able to work, it also encompasses those with some attachment to the job market. Among these are individuals who are able and ready to work, but not actively searching, for instance because they are waiting to hear from potential employers or don't think work is available. One key question is whether these people contributed to the growing population of non-participants during the downturn.

In Table 8 non-participants are split into three major categories:

- those who were able to work and had some attachment to the labour market, even if they were not currently looking for a job
- those who were able to work but had no perceived attachment to the labour market
- those who were permanently unable to work.

The first category includes

- the discouraged: those who gave up searching since they believed no work was available
- recently laid-off individuals, who expressed a desire to go back to the labour market, were not discouraged, but did not look for work (for example, recently laid-off people who want to take some time off with their families before resuming their searches)
- the 'marginally attached,' including those who are waiting to hear from potential employers and long-term future starts (i.e., they have jobs they expect to start in 5 weeks or more).

All individuals in this category clearly expressed that they would like to stay involved in the job market, or were planning to rejoin the labour force at some point in the future.

Those who had a perceived labour market attachment represented about 2% of non-participants. The discouraged comprised just 0.2% of non-participants in October 2008 and 0.3% in October 2010. So even though their numbers increased (38%), it was from such a small base that their share remained relatively steady. Hence, the discouraged played a very minor role in the increase in non-participants during the downturn.

Rather, the number of non-participants swelled due to a strong increase in the 'able-to-work' population. The number of students grew by 17% over the period (or by almost 250,000), suggesting that some non-participants may have decided to upgrade their skills rather than enter a weak labour market or chose to remain in school due to the slowdown in hiring.[7] In fact, students, who represented just 16% of the not-in-the-labour-force population at the beginning of the downturn, accounted for more than 50% of the increase in non-participants.

The number of seniors also increased as a consequence of the aging population. Between October 2008 and October 2010, the number of non-participants age 65 and over (not classified elsewhere) increased by 169,000 (5%), accounting for about one-third of the increase in the non-participant population. However, seniors typically represent a large portion of the non-participant population. Meanwhile, the number who retired in the previous 12 months increased by about 10,000 (6%), indicating that the downturn did not necessarily trigger a wave of early retirement.

Several alternative unemployment rates can be computed by combining the unemployed with groups outside of the labour force that indicated some attachment to the labour market. The first of these populations is 'discouraged searchers,' who want to work and are available to take work, but who do not look for a job because they believe no jobs are available. Discouraged searchers can be combined with the unemployed to calculate the R5 rate. The marginally attached comprise those who are available for work and are waiting for employment, but are not currently looking for work. The R6 rate combines the marginally attached (excluding discouraged searchers) with the unemployed. In both cases, the populations are added to the numerator and the denominator to obtain conceptually consistent ratios of individuals without a job (see *How the supplementary measures of unemployment are calculated*).

Since these groups are not particularly large, both rates tend to be slightly higher than the standard unemployment rate (Table 9). In October 2008, R5 was 5.7%, compared to the standard rate of 5.6%. One year later, early in the labour market recovery, it was 7.7%, and by October 2010, it had fallen back to 7.3%. Similarly, R6 was 6.0% in October 2008, 8.1% in October 2009 and 7.6% in October 2010—only slightly higher than the standard unemployment rate.

The detailed non-participant groups could not be compared to previous downturns since information about discouraged and marginally attached workers was collected differently in those years.

The underemployed

Even if employment recovered all ground lost during the downturn, some of the workforce may remain underemployed. Underemployment can come in two forms: 'visible' underemployment, which happens when someone is employed but does not believe his or her work hours are sufficient; and 'invisible' underemployment, which occurs when skills are not fully used, or when the job occupied is considered

Table 9 Alternative measures of unemployment: Discouraged and marginally attached

	October 2008	October 2009	October 2010	Change from October 2008 to October 2010
		'000		
Number				
Standard unemployment rate (R4)	1,024.1	1,387.6	1,331.7	307.6
With discouraged workers (R5)	1,045.9	1,415.7	1,361.7	315.8
With marginally attached workers (R6)	1,108.2	1,479.3	1,415.7	307.5
Rate		%		
Standard unemployment rate (R4)	5.6	7.6	7.2	1.6
With discouraged workers (R5)	5.7	7.7	7.3	1.6
With marginally attached workers (R6)	6.0	8.1	7.6	1.6

Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

Table 10 Change in categories of employed population

	October 2008	October 2010	Change		October 2008	October 2010
	'000		'000	%	% distribution	
Total employed	**17,242.5**	**17,183.5**	**-59.0**	**-0.3**	**100.0**	**100.0**
Full-time workers	13,947.8	13,835.2	-112.6	-0.8	80.9	80.5
Part-time workers	3,294.8	3,348.3	53.5	1.6	19.1	19.5
Involuntary	700.5	840.9	140.4	20.0	4.1	4.9
Going to school	1,146.8	1,073.7	-73.1	-6.4	6.7	6.2
Other voluntary	1,447.6	1,433.8	-13.8	-1.0	8.4	8.3

Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

'substandard' because of wages or other job characteristics (Statistics Canada 1999). In the Labour Force Survey, visible underemployment can best be estimated by computing the number of part-time workers who would prefer to be working full time. Such involuntary part-timers represented 4% of the total employed workforce in October 2008 (Table 10).

Although employment regained a good portion of lost ground over the period, full-time employment[8] declined by 112,600 (-0.8%), while the number of part-time workers increased by 53,500 (1.6%). The increase in the number of part-timers was the net result of a 20% increase in the number of involuntary part-time workers (140,400) and a decline of 86,900 among those who worked part time on a voluntary basis (including students). Both full-time and part-time employment declined in the first year and recovered during the second, but full-time employment did not recover as swiftly as part-time employment.

Another alternative measure of unemployment—R7—includes involuntary part-timers, or 'underemployed' workers.[9] The R7 rate differs from the standard unemployment rate in both the numerator and denominator. The R7 rate takes the number of hours of potential labour supply lost due to underemployment into account, since the number of single-job involuntary part-timers are expressed as full-time equivalents. Hence, R7 can be interpreted as a combination of the unemployed and involuntary part-timers expressed in full-time equivalent hours (see *How the supplementary measures of unemployment are calculated*).

Taking the underemployed into account would increase the unemployment rate by a substantial margin. In October 2008, R7 was 7.4% compared to the standard rate of 5.6%. One year later, R7 was 9.9% (standard rate of 7.6%). By October 2010, the R7 rate had eased down 0.6 percentage points, but was still much higher than it had been at the beginning of the downturn.

Chart B Unemployment and underutilization rate (R8), October 2008 to October 2010

Source: Statistics Canada, Labour Force Survey, data not seasonally adjusted.

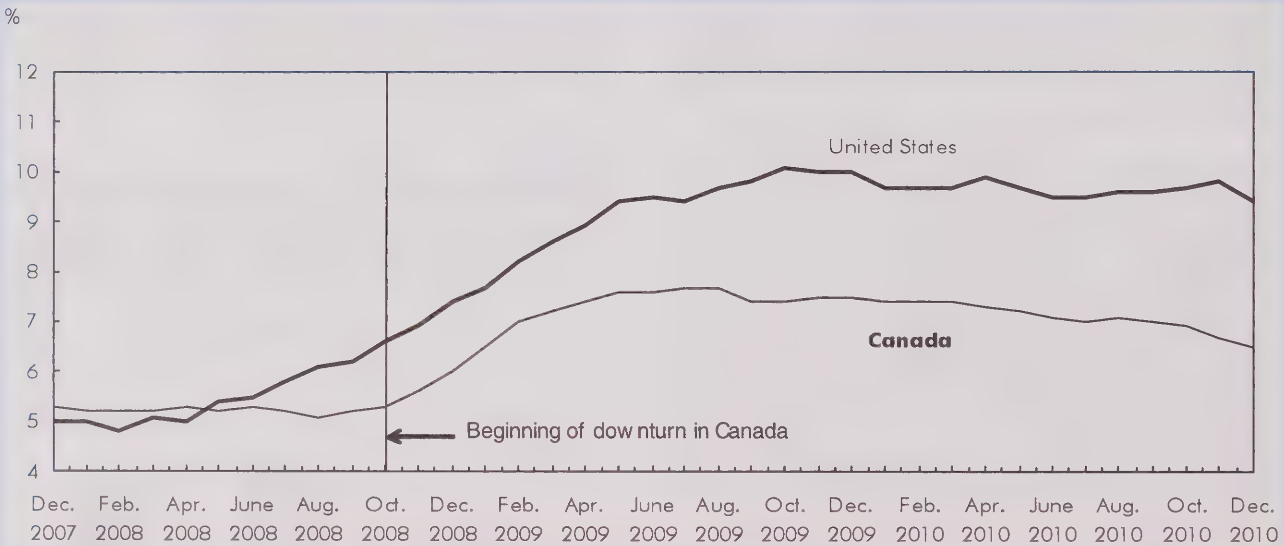
An alternative rate for Canada–U.S. comparisons

To allow comparisons to be made between Canada and the United States, Statistics Canada also produces a rate defined similarly to the U.S. unemployment rate (called the R3 rate). Like the U.S. official rate, the R3 rate is based on a working-age population of at least 16 years, and takes conceptual differences into account in defining the employed and unemployed populations (Chart C). Contrary to the other alternative rates, it is also produced on a seasonally adjusted basis. Because employment last peaked in December 2007 in the U.S., the figure below provides unemployment rates for the two countries between December 2007 and December 2010.

At the beginning of the downturn in the United States, the unemployment rates were similar in the two countries, at 5%. Although the U.S. rate began to increase earlier, both rates increased in tandem in the first few months of the Canadian employment downturn. However, the Canadian rate stabilized in the spring of 2009, while it continued increasing until October 2009 in the U.S. At this point, the U.S. unemployment rate exceeded the comparable Canadian rate by more than 2.5 percentage points. Since then, the gap has persisted as the U.S. rate has remained around 10% during most of 2010 (while it has slowly declined in Canada).

During the downturn of the 1990s, the Canadian unemployment rate increased much faster than the U.S. unemployment rate and remained higher for many years afterwards.

Chart C Unemployment rates for Canada and the U.S. (R3)[1]



1. Canadian rate adjusted to match U.S. definitions.
Source: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Comprehensive unemployment and underutilization rate

It is possible to derive a comprehensive rate by combining all the elements that were used to generate R5, R6 and R7 with the unemployed. This rate, called R8, combines the unemployed with discouraged searchers, those waiting for recall or replies, long-term future starts, and a portion of involuntary part-timers. The R8 rate is often referred to as the overall 'underutilization' rate as it is the highest rate of all the measures, including the official rate.

Chart B shows the evolution of the rate over the period, and also indicates the relative contribution of each group. Adding the marginally attached, the discouraged and the underemployed to the unemployment rate, the comprehensive rate was 8.0% in October 2008, 10.4% in October 2009, and 10.0% in October

2010. Most of the difference from the official unemployment rate was due to the underemployed, as they represented about 20% of the total unemployed and underutilized population. In contrast, discouraged searchers represented only a small fraction of underutilized people, even after the downturn. In all, adding the marginally attached, the discouraged and the underemployed population boosted the unemployed population by about 25%.

Both the standard rate and the R8 rate increased at about the same pace over the period, as the underutilized population increased by 27% (or almost 400,000 people) and the number of unemployed workers increased by 30% (or more than 300,000 people). Hence, the downturn had little effect on the relative contribution of each group to the overall rate.

Summary

The Canadian labour market recently experienced a significant downturn in which more than 400,000 jobs were lost in the 12 months following October 2008. The labour market, however, recovered quite quickly as employment regained all lost ground by January 2011. In comparison, the labour market took much longer to recover during the recessions of the early 1980s and early 1990s.

As might be expected in an economic downturn, the number of individuals without a job increased significantly. Between October 2008 and October 2010, unemployment increased by 341,000, and the number of non-participants increased by 458,000 (in seasonally adjusted figures).

Unemployment changes were not just due to layoffs. Between October 2008 and October 2010, the number of permanent layoffs increased by about 30%, but other categories of unemployed workers also increased—particularly new entrants and re-entrants (33%) and those who were unemployed for more than one year (74%). In all, 28% of the increase in the unemployed population was due to permanent layoffs and almost 50% was due to an increase in the number of new and re-entrants. This differed from earlier downturns, when permanent layoffs accounted for a larger portion the total unemployment increase.

From October 2008 to October 2010, the increase in non-participants was mainly driven by increases in the number of students and, to a lesser degree, in the number of seniors. The number of individuals marginally attached to the labour market (including discouraged searchers) also increased by about 27,000 (17%), but contributed little to the overall increase since they represent such a small portion of the non-participant population.

In contrast, the number of individuals working part time on an involuntary basis increased by about 140,000 over the period (20%). Even though they are counted as employed, this population is considered underemployed since they would like to work more hours.

Some of these groups can be used to generate alternative unemployment rates. Such alternative rates can be produced by focusing on those who have been without a job for a long time; by combining unemployed individuals with discouraged searchers and the marginally attached, or by adding involuntary part-timers (expressed as full-time equivalents). The most comprehensive of these rates, R8, is called the unemployment and underutilization rate and combines the unemployed, involuntary part-timers, discouraged searchers, and the marginally attached. Using this alternative definition would not have changed the pace of the increase in unemployment figures, but would have affected the level since the underutilization rate is approximately 25% higher than the unemployment rate.

Perspectives

Notes

1. 'Future starts' refers to persons who did not have a job during the survey reference week and did not search for work within the previous four weeks, but were available to work and had a job to start within the next four weeks.

2. Since the Labour Force Survey does not interview persons under the age of 15, new entrants can also be individuals who just turned 15, are not students, and are looking for work.

3. Persons on temporary layoff are employees who did not work during the reference week because they had been temporarily released by their employers due to business conditions (not enough work, drop in orders or sales, retooling, etc.). They must have a definite return-to-work date or an indication from the employer that they will be recalled in the future, and they must be available for work during the reference week.

4. The Labour Force Survey does not ask the reason for job loss for those who have been unemployed for more than one year.
5. The duration of unemployment estimates indicates incomplete spells of unemployment rather than completed spells because the data are based on currently unemployed individuals. See Corak and Heisz (1995) for an explanation of possible biases associated with incomplete unemployment spells.
6. While the increase in the R1 rate is notable, unlike the standard unemployment rate, the R1 rate typically lags economic cycles. In other words, R1 declines more slowly during periods of economic growth and increases more slowly during economic downturns. In comparison, the R2 rate tends to be much closer to economic cycles.
7. Between October 2008 and October 2010, the proportion of the total population age 15 to 29 who were either part-time or full-time students increased from 44% to 46%.
8. Full-time employment is defined as working at least 30 hours per week.
9. There are no comparable data with previous downturns as the concept of involuntary part-time workers changed in 1997.

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What's new?

Recent reports and studies

From Statistics Canada

Cohort differences in education and earnings of childhood Immigrants

This study uses data from six Canadian censuses of population between 1971 and 2006 to examine cohort differences in the educational attainment and earnings of childhood immigrants who arrived in Canada in the 1960s, 1970s and 1980s. Childhood immigrants are defined as those who were born abroad and immigrated to Canada at the age of 12 or younger. They represented about 26% of immigrants who arrived in Canada in the 1960s, 24% in the 1970s and 21% in the 1980s. Their educational attainment and earnings are examined at age 25 to 34. The comparison group consists of Canadian-born individuals who reported Canadian, British, or French ethnic origin.

The outcome measures for childhood immigrants are derived from the 1986 Census of Population for the 1960s entry cohort, from the 1996 Census of Population for the 1970s cohort, and from the 2006 Census of Population for the 1980s cohort. Educational attainment is measured by whether a university degree was obtained.

The probability of obtaining a university degree by age 25 to 34 was higher among childhood immigrants than among their Canadian-born comparison group in all three cohorts, and this difference increased across the three cohorts. The continued success of more recent cohorts of childhood immigrants is due primarily to a shift in the composition of the immigrant population towards groups in which children of immigrants have traditionally had high educational attainment. Once shifts in composition (including source region, mother tongue, and visible-minority status) are taken into account, the difference no longer increases over time; if anything, it shrinks for the 1980s cohort. This decline in university completion (relative to the Canadian-born) is associated with the decline in the earnings of immigrant parents relative to the Canadian-born.

For more information, see *Reversal of Fortunes or Continued Success? Cohort Differences in Education and Earnings of Childhood Immigrants* in the Analytical Studies Branch Research Paper Series, Statistics Canada, January 2011.

Highly educated immigrants in the Canadian and U.S. labour markets

Have highly educated recent immigrants to Canada fared as well economically as their counterparts entering the United States? This study examines how economic outcomes at entry for the highly skilled have changed in the two countries over the past quarter-century, and whether changes in the standard observable background characteristics of entering immigrants can account for the outcome trends.

Two economic outcome measures are used: the mean relative (to domestic-born) entry wages of highly educated new immigrants (i.e., the wage gap at entry), and the university wage premium (defined as the difference between the wages of university-educated and high-school-educated).

Relative entry earnings of university-educated immigrants followed a significantly different path in Canada and the U.S., with generally superior outcomes in the U.S., particularly since 1990. This occurred despite significant declines in entry earnings for successive groups of entering immigrants *as a whole* (i.e., immigrants with and without university education) being observed in both countries over the last quarter-century.

For more information, see *Do Highly Educated Immigrants Perform Differently in the Canadian and U.S. Labour Markets?* by Aneta Bonikowska, Feng Hou and Garnett Picot, in Analytical Studies Branch Research Paper Series, Statistics Canada, January 2011.

Paid work among women in Canada

The labour force activity of women changed considerably during the past three decades. Although they are still less likely to be employed than men, their employment rate has followed an upward trend since 1976, when it was 41.9%. In 2009, over 8 million women in Canada had a paid job. This represents an employment rate of 58.3% compared with 65.2% for men.

The employment rate for women with children has been steadily on the rise. In 2009, 72.9% of women with children under the age of 16 living at home were employed, nearly twice the rate of 39.1% recorded in 1976.

While nearly three-quarters of employed women worked full time in 2009, women were more likely than men to work part time. Also, the majority of employed women continue to work in occupations in which they have been traditionally concentrated. However, they have increased their representation in several professional fields such as business and finance.

The impact of the recent economic downturn was less severe on women than on men. Between 2008 and 2009, the employment rate for men fell 2.9 percentage points to 65.2%, repeating a pattern set in the recessions of the early 1980s and 1990s. In contrast, the employment rate for women declined by only one percentage point in 2009, after reaching an historic high of 59.3% in 2008.

Men were more affected by the recent downturn because the industries hardest hit by employment losses were male-dominated, such as manufacturing, construction and natural resources. In contrast, more women worked in service industries, such as health care and social assistance as well as educational services, where employment continued to grow.

For more information, see the December 9, 2010 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

Survey of Household Spending

Average household spending in Canada declined by 0.3% in 2009, following the economic slowdown that began in the fall of 2008. This was the first decline since the annual Survey of Household Spending was introduced in 1997. During 2009, the annual average rate of inflation as measured by the Consumer Price Index was 0.3%.

Personal taxes accounted for 20.2% of the average household's budget in 2009, while shelter represented 19.8%, transportation, 13.7% and food, 10.2%. These shares were virtually unchanged from 2008. Excluding personal taxes, spending on goods and services was down 0.7% in 2009 from 2008.

Households reduced spending on discretionary items or those that could be postponed, such as recreation and household furnishings. One exception was spending for home repairs and maintenance, which increased 22% in 2009 over 2008. This was likely due to the federal government home renovation tax credit program.

Not all changes in spending were associated with the economic downturn; technological change continued to drive a number of long-term spending trends.

Food, shelter, clothing accounted for over half of spending by the lowest income households, while personal taxes represented 2.8% of their budget. In contrast, the one-fifth of households with the highest income allocated about 27% of their budget to food, shelter and clothing, while 30% went to personal taxes. These proportions were similar to 2008.

For more information, see the December 17, 2010 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

Labour productivity in the provinces and territories

In 2009, labour productivity of the business sector increased in Prince Edward Island, Quebec, Manitoba and British Columbia as well as Yukon. At the national level, productivity was unchanged, after decreasing by 0.8% a year earlier.

The strongest growth in business productivity in 2009 was observed in Quebec. The largest declines occurred in the resource-based economies of Newfoundland and Labrador, Saskatchewan and Alberta. In Quebec, most industries contributed to the 2.0% productivity increase, with large advances occurring in retail trade, transportation and warehousing, and the information and cultural industries.

Businesses adjusted to the economic downturn in 2009 by sharply reducing hours worked. However, the weakness in output and employment was confined mostly to the first half of the year.

For more information, see the November 19, 2010 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

From other organizations

Who creates jobs? Small companies or young companies?

There has been a popular perception that small businesses are the drivers of job creation. However, the more telling characteristic for predicting job creation is the age of the firm, not its size: The younger companies are, the more jobs they create, regardless of their size.

This study shows that the real driver of disproportionate job growth is not small companies, but young companies. Many start-up firms fail after five years, leading to the loss of nearly half of the jobs created by all new companies. Nevertheless, the surviving firms tend to grow faster than more mature companies, creating a disproportionate share of jobs relative to their size. See *Who Creates Jobs? Small vs. Large vs. Young* by John Haltiwanger, Ron Jarmin and Javier Miranda, National Bureau of Economic Research, or *The NBER Digest*, February 2011.

Trends in U.S. hours and the labour wedge

From 1980 to 2007, average hours worked in the U.S. increased by about 13%. This growth was driven by a very large increase of married women's hours, while single women's hours rose only slightly and hours of men declined. In order to examine these trends, the standard growth model was augmented to allow for gender and marital status heterogeneity. The study considers the impact of various exogenous factors on labour supply, the most important of which are changes in effective labour income taxes and changes in the gender wage gaps.

The labour wedge is measured as the aggregate discrepancy between the marginal rate of substitution between consumption and leisure and the marginal product of labour. While shrinking gender wage gaps allow the model to generate a labour wedge that declines beginning in the early 1980s, a non-negligible discrepancy remains. The labour wedge measured from a representative household model partly reflects imperfect household aggregation. See *Trends in U.S. Hours and the Labour Wedge* by Simona E. Cociuba and Alexander Ueberfeldt, Bank of Canada, November 2010.

Upcoming events

From data to decision-making: Socioeconomic conference, May 2-3, 2011

The Statistics Canada Socioeconomic Conference provides an annual forum for empirical research focusing on issues of concern to Canadian decision-makers. ***From data to decision-making*** is the theme of the upcoming conference.

Studies targeted by the conference include topics such as innovation, productivity, international trade, environment–economy linkages, industrial development, urban and rural development, health, justice, education, families, income and wealth, immigration, and labour markets. The conference places a premium on empirical studies making innovative use of Canadian data. For more details, see http://www.statcan.gc.ca/conferences/socioecon2011/index-eng.htm.

Perspectives

In the works

Some of the topics in upcoming issues

Immigrant self-employment

This study traces trends in self-employment among immigrants and the Canadian-born, using census and Labour Force Survey data. Differing attitudes of immigrants and natives towards self-employment are highlighted with data from the 2000 Survey of Self-employment.

Immigrant educational outcomes

Making use of longitudinal administrative data, this study compares the labour market outcomes of immigrants who have studied in Canada since their arrival with other immigrants who have not undertaken such studies.

Income with savings and spending among the self-employed

Using several data sources, this article examines various income, wealth and spending indicators among the self-employed and compares them with the same indicators for paid employees.

Working low-income families

Using the 2009 Canadian Financial Capabilities Survey, this study examines the financial situation of employed families living in low income and compares it with non-employed families living in low income and employed families not living in low income.

Perspectives

Catalogue no. 75-001-XPE

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PERSPECTIVES ON LABOUR AND INCOME

Departments

Perspectives on Labour and Income (Catalogue no. 75-001-XPE; aussi disponible en français: *L'emploi et le revenu en perspective*, n° 75-001-XPF au catalogue) is published quarterly by authority of the Minister responsible for Statistics Canada.

ISSN: 0840-8750.

PRICE: CAN $20.00 per issue, CAN $63.00 for a one-year subscription.

Shipping charges outside Canada:

	Single issue	Annual subscription
United States	CAN $ 6.00	CAN $24.00
Other countries	CAN $10.00	CAN $40.00

All prices exclude sales taxes.

Indexed in the *Canadian Index, Canadian Periodical Index, P.A.I.S. International, Sociological Abstracts, Econlit, Canadian Business and Current Affairs* and *Employee Benefits Infosource.* Also indexed in French in *L'Index de l'Actualité* and *Point de Repère.*

Articles

Previous studies of older Canadians' well-being have focused on changes in income as individuals age and leave the workforce. However, little has been published on the extent to which consumption levels change in this transitional period. This study uses data from the Survey of Family Expenditures and the Survey of Household Spending to develop a synthetic cohort approach to determine how the consumption patterns of households headed by those born in the late 1930s changed from middle age (in the early 1980s) to retirement (in the late 2000s).

It is often assumed that over the life course most older workers will pay off their debts and save for retirement. However, research from the United States suggests that an increasing number of seniors who are in pre-retirement or are retired are now struggling with debt. This article uses the 2009 Canadian Financial Capability Survey to look at the proportion, type and level of debt among Canadian retirees age 55 and over. It examines the socio-economic and demographic factors influencing the likelihood of carrying any debt in retirement. The financial circumstances of indebted retirees are also examined, including three indicators of financial security.

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ON LABOUR AND INCOME

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Highlights

In this issue

Consumption patterns among aging Canadians ... p. 5

- Changes in consumption patterns before and after retirement comprise a key indicator of seniors' well-being. This study uses a series of cross-sectional surveys to estimate the consumption of households headed by someone born in the late 1930s—from middle age (in the early 1980s) into the senior years (in the late 2000s).
- After adjusting for changes to the number of people in the household, consumption changed little as the head of the household aged. In contrast, household income (including implicit income from home ownership) declined by about 15%.
- While the total varied little by age, households in this cohort spent proportionately more on food, clothing and care items when they were younger and proportionately more on residence and housing items when they were older.
- As their household heads aged, the proportion of households that consumed more than they earned increased, from 22% to 44%. This confirms that older households rely more on savings to finance their consumption.
- Inequality in consumption levels among households was relatively stable over the period, even though income inequality did change. However, spending on residences and housing became more unequal among older households, while spending on food, clothing and personal care items became more equal.

Retiring with debt ... p. 15

- In 2009, one-third of retired individuals age 55 and over, whether single or in a couple, held mortgage or consumer debt.
- The median amount owing for retirees with debt was $19,000.
- The likelihood of having debt was significantly higher among younger retirees, homeowners, the divorced, those with a higher household income and those with a lower net worth.
- Questions on financial self-assessment show that about 80% of retirees have a positive view of their financial situation.
- Factors that significantly lower financial self-assessment include having any level of debt, being divorced, being an immigrant, and having a relatively low income and net worth.

The distribution of mortgage debt in Canada ... p. 25

- From 1982 to 2008, household debt in current dollars increased more than eight-fold. Throughout that period, mortgages accounted for approximately two-thirds of household debt while consumer debt comprised the other third.
- Rising real estate prices played a part in the increase in mortgage debt. In current dollars, average housing prices increased from $71,800 in 1982 to $303,500 in 2008. Over the same period, the average mortgage carried by households increased from $41,200 to $176,200.

- Since it takes time to pay off a mortgage, mortgagees were much younger, on average, than mortgage-free homeowners. In 2008, more than 80% of households under age 45 became homeowners in the 10 preceding years.

- In 2008, Canadians spent an average of 17% of their disposable income on mortgage payments—the 'mortgage-liability ratio.'

- The mortgage-liability ratio varied across households. Nearly 4 in 10 mortgagees spent at least 20% of their disposable income on mortgage payments. Another 4 in 10 spent between 10% and 19%, while 2 in 10 had a mortgage-liability ratio of less than 10%.

- The average mortgage-liability ratio also varied across regions, from a high of 20% of household income in British Columbia to a low of 14% in Atlantic Canada.

- The proportion of mortgagees age 45 to 54 spending at least 20% of their disposable income on mortgage payments remained relatively stable over the 2000s at a level that was lower than in the late 1990s. The increase in recent years was mainly concentrated among mortgagees under 45 and from 55 to 64.

- Households spending 20% or more of their disposable income on a mortgage had different spending patterns than those with a lower mortgage-liability ratio. In addition to having higher shelter costs, they spent more on food, clothing and transportation, and saved less than mortgage-free homeowners.

Measuring voluntary interhousehold transfers in Canada ... p. 35

- Some Canadians receive assistance in money, goods or services from other households to support their current consumption. Such transfers are not usually included in the recipient's income. This article examines the conceptual and measurement issues related to voluntary interhousehold transfers in Canada using data from income, expenditure and wealth surveys.

- In 2008, Canadian households received an estimated $8.5 billion in voluntary interhousehold transfers. This amount is twice as large as court-ordered alimony and child support payments and is similar in magnitude to social assistance or child tax benefits.

- About 7% of households received voluntary interhousehold transfers in 2008. The median transfer received was $2,500—equivalent to 5% of recipients' median household income.

- After adjusting for inflation, the amount of voluntary interhousehold transfers sent increased by 46% between 1998 and 2008. In comparison, household income increased by 33% and charitable donations by 32% in the same period.

- The incidence and amount of interhousehold donations increased with household income, both more than doubling from the bottom to the top quartile. The pattern of receipt was much less clear cut: households in the bottom and top quarters were somewhat more likely to receive transfers than those in the middle two quartiles.

What's New? ... p. 45

- **From Statistics Canada**

  Apprenticeship programs: who continues, who quits

  Consumer Price Index

  Education following job loss

  Seeking success in Canada and the United States: Children of Immigrants

  Working at home

- **From other organizations**

  Doing better for families

  Persistence of high unemployment

  Unpaid work around the world

Consumption patterns among aging Canadians

Amélie Lafrance and Sébastien LaRochelle-Côté

Adapted from and published simultaneously as *Consumption Patterns Among Aging Canadians: A Synthetic Cohort Approach,* by Amélie Lafrance and Sébastien LaRochelle-Côté, Economic Analysis Research Paper Series, Statistics Canada Catalogue no. 11F0027M – No. 067, Ottawa.

The financial well-being of Canadian seniors has been the subject of many recent studies. In particular, the adequacy of retirement savings has been widely discussed, notably by Mintz (2009) and through a series of reports on the Canadian income security system. Many of these studies focus on the replacement rate—the extent to which income is replaced during the retirement years—and find that current cohorts of Canadian retirees typically achieve replacement rates in excess of 70% (LaRochelle-Côté et al. 2010, and Ostrovsky and Schellenberg 2009). Moreover, the replacement rate is even higher when the benefits of owned housing are taken into consideration (Brown et al. 2010).

Income, on the other hand, is of interest mainly because it enables consumption. Consumption is thus an alternative, and, in some sense, a more direct measure of seniors' well-being. Some studies that have examined differences across age groups on a cross-sectional basis have shown that older households consumed significantly less than younger households (Chawla 2005). However, little is known about the evolution of consumption among Canadians as they age.

The study of consumption over the life cycle is complicated by the fact that expenditure and consumption information is typically collected on a cross-sectional basis. One way around this challenge is to use a synthetic cohort approach, whereby a number of key social and economic characteristics known for varying across cohorts can be taken into account (LaRochelle-Côté et al. 2010). This approach is based on the assumption that people, say, 70 years of age in a survey collected in 2010, are deemed representative of those age 40 in a similarly designed survey in 1980. This study uses a synthetic cohort approach to generate information about the consumption patterns of a cohort of aging Canadians (see *Data source and selection of a synthetic cohort*). This paper also discusses consumption changes in relation to changes in household income, and examines whether consumption became more or less unequal as the cohort aged.

Expenditures and consumption

Expenditures and consumption are two separate concepts. In the Survey of Family Expenditures (FAMEX) and the Survey of Household Spending (SHS), total household expenditures are the sum of four separate components:

- **gifts,** which can be broadly defined as money transfers to charities and individuals outside of the household (e.g., children studying elsewhere, seniors' parents living in a nursing home, family members outside the country)
- **personal security,** including public and private pension plans, employment insurance, annuities, insurance payments, and similar items (excluding registered retirement savings plan [RRSP] contributions and contributions to other registered savings plans)
- **taxes,** including consumption and property taxes paid
- **consumption** itself, which can be defined as goods and services that can be bought or sold on the market for use by one or several members of the household.

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The last category—consumption—represents the largest portion of expenditures for the most Canadian households. Items in this category include expenditures on durables (e.g., house, furniture and automobiles) and non-durables (e.g., food, clothing and recreation).

Reporting on durable goods can vary since some people pay lump sums while others make regular payments. For residences and automobiles, in particular, the amount actually paid might not be representative of the usage (utility, in economic terms) of the item over the course of the period. One solution is to derive a consumption flow for these items that is more closely associated with their ongoing usage (Pendakur 1998). In this paper, consumption expenditures are imputed for two categories of durables: housing expenditures for homeowners and vehicles (see *Imputing consumption flows for housing and automobile expenditures*).

The size of the household also matters since consumption rises with the number of people. However, many household facilities—kitchens and living areas, for example—are shared by all members of the household. Thus consumption does not rise by the same amount for each additional person. In order to account for these economies of scale, a standard practice in the literature is to divide overall consumption by the square root of household size[5] (Pendakur 1998 and Lise 2001). As an illustration, this method assumes that a family of four consumes twice as much as someone living alone, while a couple consumes 1.4 times as much. This technique is especially relevant to the study of aging households because children are typically leaving the nest as their parents are approaching retirement.[6]

All consumption and expenditure figures are expressed in 2002 constant dollars.

Expenditures

In the early 1980s, this cohort of households spent an average of $36,600 annually (on a per-adult basis) when it was in its late 40s. Nearly 3 out of every 4 dollars were spent on consumption ($26,700). Taxes were the second-largest expenditure item, accounting for nearly 20% of expenditures ($7,100). Expenditures on personal

Data source and selection of a synthetic cohort

The main source of consumption information is the Survey of Household Spending (SHS). The SHS has been conducted on an annual basis since 1997, collecting detailed information on the income and expenditures of 10,000 to 20,000 households, depending on the year. Before 1997, consumption information came from another survey: the Survey of Family Expenditures (FAMEX). Although FAMEX and the SHS differ in some respects, similarly defined consumption and expenditure categories can be obtained at the aggregated level with both surveys.[1] Because FAMEX and the SHS cover nearly four decades of expenditure information among Canadian households, it was possible to derive a synthetic cohort of aging households categorized on the basis of the reference person's age.[2]

One problem often encountered with synthetic cohorts is the small sample size of surveys for a given age group. To increase the sample size, age groups covering several years were selected instead of just those born in the same year. In addition, survey years were combined to further boost the sample size. Hence, FAMEX observations collected in 1982 and 1984 were combined, as well as those collected in 1990 and 1992. Similarly, SHS observations were combined for 1997 and 1998, 2002 and 2003, and 2007 and 2008.[3] The resulting samples range from of 750 to 1,600 observations for five points in the life cycle: the late 40s, mid-50s, early 60s, late 60s, and early 70s. Table 1 describes the sample characteristics.[4]

Table 1 Sample characteristics

	Survey	Age	Sample size	Total sample
Early 70s	SHS 2008	71 to 74	481	1,089
	SHS 2007	70 to 73	608	
Late 60s	SHS 2003	66 to 69	751	1,416
	SHS 2002	65 to 68	665	
Early 60s	SHS 1998	61 to 64	760	1,605
	SHS 1997	60 to 63	845	
Mid-50s	FAMEX 1990	53 to 56	235	750
	FAMEX 1992	55 to 58	515	
Late 40s	FAMEX 1982	45 to 48	634	919
	FAMEX 1984	47 to 50	285	

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Imputing consumption flows for housing and automobile expenditures

Housing

One commonly used approach is to compute 'imputed rents' for homeowners.[14] This can be done by estimating a semi-log equation with measures of location and quality for the dwelling (for instance, number of rooms) as independent variables, very much in the spirit of Brown and Lafrance (2010):

$$\ln(rent)_{it} = \alpha + \beta' rooms_{it} + \delta' bathrooms_{it} + \gamma' type_{it} + p_{it} + \varepsilon_{it}$$

where *rent* is the value of annual serviced rental payments incurred by the renter, which includes utilities (e.g., water, electricity and fuel). The right-hand side variables measure the quality of the dwelling (i.e., the number of *rooms*—including a quadratic term—and *bathrooms* in the dwelling and the *type* of dwelling), while *p* takes the province in which the dwelling is located into account. The predicted values from each model are used to calculate imputed rents for owner-occupied housing. These values include utilities (e.g., water, fuel and electricity) that would normally be associated with renters, which may not necessarily accord with the utility expenditures of homeowners. The share of utilities as a proportion of rent is calculated for tenants by dwelling type, as expenditures on utilities vary by dwelling type. These shares are then applied to the predicted rents for owner-occupied housing to determine the proportion of imputed rents that is accounted for by expenditures on utilities. The difference between these expenditures and actual expenditures on utilities is subtracted from the predicted rental values to obtain total shelter costs for homeowners.

Vehicles

This paper uses the method suggested in Pendakur (1998) to derive an imputed consumption flow for purchased transportation vehicles. The first step is to estimate a probit model among families with car operation expenses in excess of $100. In this model, the probability of purchasing a car is modelled as a function of variables indicative of a household's financial capacity: family size, net income, net income squared, and province. The predicted probabilities are then multiplied by predicted purchase prices obtained from another model of car purchases.[15] The total consumption flow from transportation is then equal to this imputed car purchase consumption flow, plus automobile operation expenses (e.g., gas, batteries and tires) and public transportation expenses.

security ($1,700) and gifts ($1,100) together represented about 8% of overall expenditures (Table 2).

Total expenditures increased to $40,000 as the cohort reached its mid-50s. This is not a surprise, since many people are in their peak earning years at this point in the life cycle. As the cohort aged further, expenditures eventually fell by almost $10,000, with most of the decline happening between the mid-50s and early 60s.

The decline in overall expenditures was primarily due to a drop in taxes paid. For individuals between their late 40s and early 70s, taxes paid declined by more than $3,000, thereby representing 58% of the overall decline in expenditures. Lower taxes are consistent with declining incomes during the retirement period (LaRochelle-Côté et al. 2008 and 2010).

Table 2 Average expenditures[1] among a cohort of aging households

	Late 40s	Mid-50s	Early 60s	Late 60s	Early 70s
			$		
Total expenditure	**36,600**	**40,000***	**33,600**	**32,400***	**31,100***
Consumption	26,700	27,300	24,800*	24,900*	25,300
Personal security	1,700	2,200*	1,300*	800*	700*
Gifts	1,100	1,600*	1,000	1,800	1,300
Taxes	7,100	8,800*	6,600	5,100*	3,900*
			%		
Total expenditure	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Consumption	72.9	68.3	73.7	76.6	81.4
Personal security	4.8	5.6	3.8	2.4	2.1
Gifts	2.9	4.0	2.9	5.4	4.0
Taxes	19.4	22.1	19.6	15.6	12.4

* Statistically different from the late-40s group at the 5% level of significance. When available, bootstrap weights were used for significance testing. Otherwise, a jackknife procedure was used.

1. Adjusted for family size. All dollar values were rounded to the nearest 100.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

In comparison, consumption fell by a smaller amount. Although it declined by about $2,000 between individuals' late 40s and early 60s, consumption recovered somewhat to reach $25,300 among households in their early 70s. This result is consistent with U.S. studies based on longitudinal data finding that retirement is associated with negligible decreases in consumption in most population groups (see, for example, Hurd and Rohwedder 2008).[7]

Although it was relatively small compared to overall consumption, spending on personal security declined from $1,700 to $700 over the period. This is expected since older households make fewer payments on pensions and employment insurance as they move into retirement. Finally, the amount dedicated to gifts remained more or less stable, amounting to just above $1,000 during most of the period.

Consumption

Consumption can be broken down into its components to determine how much households' spending on particular items changes over time. Four categories were used:

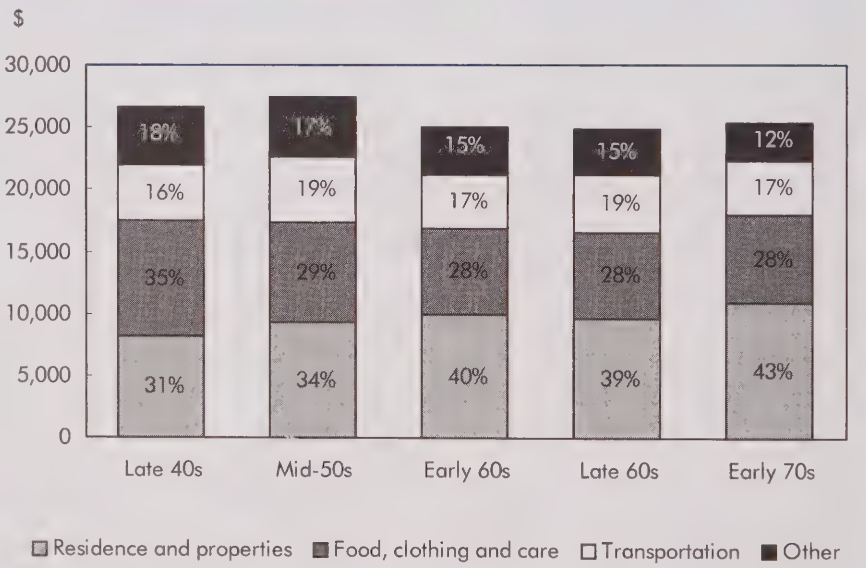
- **residences and properties:** including all expenditures related to home and property ownership, rental, maintenance, utilities, and household operations
- **transportation:** including vehicle expenses, car repairs and maintenance, and all spending on public transportation (public transit, train, plane, etc.)
- **food, clothing and care:** the sum of money spent on food (including restaurants), clothing, personal care, and health care (except public health care spending)
- **other items:** mainly comprising items that may be less essential for the health, safety or security of household members (spending on recreation, reading and printed material, tobacco and alcohol, and miscellaneous expenses are included in this category).

Although overall consumption did not change much over the period, the relative contribution of each category did (Chart A). When households were in their late 40s, expenses on food, clothing and care represented more than one-third of consumption. Spending on residences and properties amounted to just over 30%, while transportation and other consumption items accounted for 16% and 18%, respectively.

As households aged, they had a higher proportion of consumption expenses on residences and properties (43%) and a lower proportion on food, clothing and care (28%), and on other consumption items (12%).[8] Since many older homeowners stay in their homes as they age (Hou 2010), it is not surprising to see an increase in the relative size of housing expenses. Since housing expenses have been imputed for homeowners, they must be understood as a kind of dividend representative of the utility that homeowners derive from their homes rather than actual expenses.[9]

It is also possible to examine the sources of changing consumption patterns in more detail (Table 3). The increased spending on residences and properties mostly

Chart A Relative contribution of each consumption category[1]



1. Adjusted for family size.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Table 3 Detailed consumption patterns[1]

	Late 40s	Early 70s	Difference
		$	
Residence and properties	**8,200**	**10,900***	**2,700**
Shelter	4,900	8,000*	3,100
Other accommodation	500	600	100
Household operations	1,400	1,500	100
Furnishings and equipment	1,400	800*	-600
Transportation	**4,400**	**4,400**	**0**
Purchased automobiles	1,500	1,700*	200
Automobile operations	2,400	2,300	-100
Public transportation	500	400	-100
Food, clothing and care	**9,300**	**7,000***	**-2,300**
Food	5,500	3,800*	-1,700
Clothing	2,400	1,100*	-1,300
Personal care	700	600*	-100
Health	700	1,500*	800
Others	**4,800**	**3,100***	**-1,700**
Recreation	1,800	1,500	-300
Reading and printed material	200	200	0
Tobacco and alcohol	1,300	600*	-700
Miscellaneous	1,500	800*	-700

* Statistically different from the late-40s group at the 5% level of significance. When available, bootstrap weights were used for significance testing. Otherwise, a jackknife procedure was used.
1. Adjusted for family size. All dollar values were rounded to the nearest 100.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

came from an increase in spending on shelter—in fact, were it not for a significant decline in the money spent on furniture and equipment, the increase in the overall spending on residences and properties would have been even higher. Conversely, the decline observed among 'other' items was primarily due to significant reductions in the amount spent on tobacco and alcohol, and miscellaneous items.

Finally, spending on food, clothing and care declined primarily because of declines in food and clothing expenses. This is consistent with the findings of some studies based on U.S. data, which showed that work-related expenses (particularly food and clothing) tend to decline during retirement years (Hurd and Rohwedder 2006, and Hurst 2007). That said, the decline in food and clothing spending took place as spending on health care increased.

Health

Households in their early 70s spent $800 more on health care on a per-adult basis than households in their late 40s. Although all categories of health care spending increased over the period (Table 4), about one-half of the increase was due to medicine and pharmaceuticals ($400) and one-quarter to health care supplies and services ($200). Health expenditures increased from 3% to 6% over the period as a proportion of overall consumption.

Table 4 Detailed consumption patterns[1]

	Late 40s	Early 70s	Difference
		$	
Total health spending	**700**	**1,500***	**800**
Medicine and pharmaceuticals	100	500*	400
Eye and dental care	300	400*	100
Health care supplies and services	100	300*	200
Insurance premiums	300	400*	100

* Statistically different from the late-40s group at the 5% level of significance. When available, bootstrap weights were used for significance testing. Otherwise, a jackknife procedure was used.
1. Adjusted for family size. All dollar values were rounded to the nearest 100.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Consumption and income replacement

As noted earlier, a number of studies have examined the issue of income replacement rates among Canadian seniors. The general

consensus is that the Canadian retirement system is achieving relatively high replacement rates. Studies focusing on more specific populations, such as those who were strongly attached to the labour market (LaRochelle-Côté et al. 2008 and Denton et al. 2009), those who did or did not contribute to a registered pension plan (Ostrovsky and Schellenberg 2009), and those who experienced a change in their marital status (LaRochelle-Côté et al. forthcoming) all reached similar conclusions. However, the evolution of income replacement rates has rarely, if ever, been studied in conjunction with consumption replacement rates.

In FAMEX and the SHS, household income is defined as the sum of wages and salaries, self-employment income, government transfers, and miscellaneous income (comprising income from retirement pensions, registered retirement savings plans [RRSPs] and retirement income funds [RIFs], and purchased annuities), minus taxes paid. Since housing investments also generate a source of implicit income for homeowners (Brown et al. 2010), the measure of household income used in this paper is adjusted to take this implicit income into account.[10] This measure of income is then used to calculate an index that can be compared to an index of consumption. As was done for expenditures, all income figures are expressed in 2002 constant dollars and have been adjusted to reflect changes in household size.

Within this cohort, the income of households rose by about 8% between their late 40s and mid-50s, and then declined to 84% of income earned in their late 40s by the time they were in their early 70s. Households in their early 70s therefore had income levels that were 16% lower than those of the cohort in their late 40s (Chart B). This profile is similar to those reported in studies of income replacement mentioned earlier.[11]

Since consumption levels remained relatively stable over the period, the cohort had consumption levels that were just 5% lower in their early 70s than in their late 40s (a decline that was not statistically different from zero).

The maintenance of consumption while income falls fits with a standard economic model. Life-cycle theory suggests that individuals choose a consumption path to maximize lifetime utility, determined by a lifetime budget constraint. According to this theory, individuals smooth their consumption patterns over the life cycle through borrowing and repayment, based on expectations about their income increasing during their prime working years and declining during their retirement years.[12] Since consumption follows a smoother trajectory than income, many individuals appear to be following this model of behaviour.

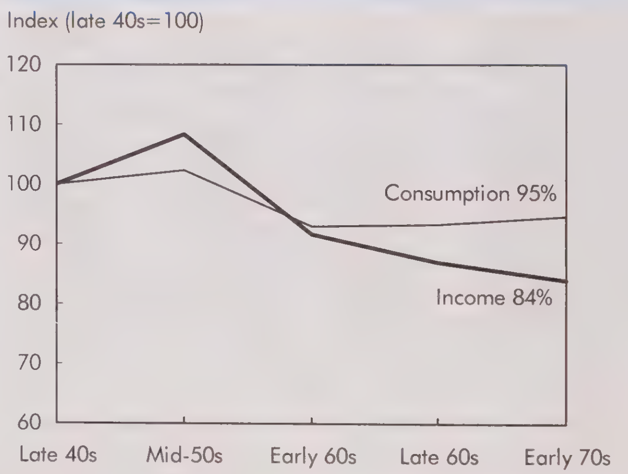
Consumption-to-income ratio

Consumption can be also expressed as a ratio of income. This ratio should not be interpreted as an indicator of financial stress, since housing expenditures are imputed for homeowners in our measure of consumption. Rather, it provides an indicator of the extent to which annual income—including income obtained from housing services—contributes to financing household consumption.

Income levels were sufficient to cover consumption expenses throughout the period (Table 5). However, the consumption-to-income ratio increased significantly over time. For every dollar of income, households in their late 40s spent 82 cents on consumption items, leaving 18 cents for other expenses and financial savings. Conversely, households in their early 70s spent 92 cents of every dollar of income on consumption.

Of households in their late 40s, almost one-quarter had consumption levels that exceeded their income level (22%). Among these, the median gap between their

Chart B Index of consumption and income patterns among senior Canadians[1]



1. Adjusted for family size.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Table 5 After-tax income and consumption statistics[1]

	Late 40s	Mid-50s	Early 60s	Late 60s	Early 70s
Average consumption-to-income ratio	0.817	0.771	0.827	0.877	0.920
Households with income less than consumption (%)	22.3	27.3	37.4	44.8	44.1
Median income gap ($)	4,700	5,200	5,300	5,000	6,100

1. Adjusted for family size. All dollar values were rounded to the nearest 100.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

income level and their consumption was $4,700, indicating that income was not meeting overall consumption levels for a number of households, even among those in their late 40s.

The proportion of households for whom consumption exceeded income increased steadily over the period, from 22% among those in their late 40s to about 45% among those in their late 60s and early 70s. This suggests that many seniors rely on accumulated savings to finance their consumption, as life-cycle theory suggests. However, the typical income gap among those who consumed more than they earned remained relatively stable during most of the period, except between their late 60s and early 70s, when it increased from $5,000 to $6,100.

Consumption and income variation

Up to this point, this study has concentrated mainly on reporting averages. Looking at averages, however, says little about the dispersion of consumption and income around the typical household. Simply put, dispersion measures show the extent to which consumption (or income) became more or less unequal over the period. Income dispersion is known to decline among older individuals (LaRochelle-Côté et al. 2008), but little is known about the evolution of consumption dispersion. If, as economic theory suggests, consumption remains similar over the life cycle, then dispersion of consumption should also remain similar across the life cycle.

The dispersion of income and consumption can be measured in different ways. A widely used measure of dispersion, the P90/P10, is the ratio of the consumption (or income) of the household located at the 90th percentile divided by the consumption (or income) of the household located at the 10th percentile. A P90/P10 ratio of 3.0, for instance, would indicate that a household located at the 90th percentile consumes 3 times as much as a household located at the 10th percentile. A similar measure, the P75/P25, uses households located at the 75th and 25th percentiles. A third measure, the mean absolute deviation (MAD), is the typical deviation, in percentage terms, of a household's consumption from the average consumption level. For instance, if a MAD of 0.2 is found, this means that households typically deviated from the mean by 20%.

By almost any measure, the dispersion in consumption remained quite stable as households aged (Table 6). Taking the mean absolute deviation as an example, household consumption deviated from the household mean by between 28% and 32% throughout the period. Other measures yielded similar results. Households at the 75th percentile had consumption levels that were 1.6 times above that of households at the 25th percentile and that ratio remained relatively stable over

Table 6 Consumption and income dispersion measures[1]

	Consumption	Income
P90/P10		
Late 40s	2.7	3.4
Mid-50s	2.7	4.2
Early 60s	2.9	4.9
Late 60s	2.6	3.5
Early 70s	2.4	3.2
P75/P25		
Late 40s	1.6	1.9
Mid-50s	1.7	2.1
Early 60s	1.7	2.1
Late 60s	1.6	2.0
Early 70s	1.6	1.9
Mean absolute deviation		
Late 40s	0.313	0.400
Mid-50s	0.318	0.442
Early 60s	0.321	0.484
Late 60s	0.281	0.385
Early 70s	0.290	0.380

1. Adjusted for family size.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

time. The P90/P10 declined from 2.7 to 2.4 between their late 40s and early 70s. By this measure, consumption became a bit more equal as the cohort aged.

In comparison, income dispersion varied much more over the period. Households in their late 40s typically diverged from the group mean by 40% (as opposed to a 31% deviation in consumption). Income dispersion increased to 48% among those in their early 60s before the stabilizing effect of pension income brought dispersion back to the high 30% range in their late 60s and early 70s. Although the P75/P25 measure varied less, the P90/P10 also increased among households until they were in their early 60s, and then it declined. Hence, not only did consumption vary less than income at any point of the life cycle, but consumption inequality fluctuated less over time than did income inequality.

Even if consumption variance did not change over the period, the sources of that variance might have changed—especially in view of the changing consumption patterns reported earlier. Using a simple decomposition technique, the variance in total consumption can be expressed as a weighted sum of the variance in every consumption item plus a series of covariance items.[13] The results can then be expressed as a share of the total variance to show the extent to which the overall variance was due to each consumption category.

When households were in their late 40s, 11% of the total consumption variance came from spending on residences and properties, 15% from spending on food, clothing and care, and 68% from covariance items (Table 7). Very little of the overall variance across households came from the other two major consumption categories (transportation and 'other' items).

However, the share of the variance attributed to differences in housing increased substantially over the period, while the variance due to differences in spending on food, clothing and care declined. When households were in their early 70s, nearly one-third of the total variance in consumption could be attributed to variations in residence and property expenses, while only 7% was due to variations in spending on food, clothing and care. The share due to covariance items also declined slightly, from 68% to 59%. This suggests that even if the total variance changed little over the period, the sources of that variance differed over time. It is also consistent with the fact that spending on housing occupied a larger portion of consumption among older households.

Summary

Previous research indicated that many retired Canadians had incomes in excess of 70% of their income in their working years after adjusting for changes in household size. However, little was known about the consumption trajectories of aging Canadians. Using a synthetic cohort approach, this paper examined the consumption patterns of a cohort that was in its late 40s at the beginning of the 1980s, until its early 70s in the late 2000s.

When controls were introduced for the declining size of aging households, consumption levels remained relatively stable as households aged. Indeed, households in their early 70s consumed 95% of the level measured for the same cohort in its late 40s.

Although consumption varied little over time, the composition of consumption did change. Among older households, a larger share of overall consumption was devoted to housing expenditures. Conversely, they spent less on food, clothing and personal care items. Spending on health care increased over the period but still represented a relatively small portion of consumption.

Differences across households in terms of consumption also changed little over the period. In contrast, income differences reached a peak when households

Table 7 Variance decomposition of consumption[1]

	Late 40s	Mid-50s	Early 60s	Late 60s	Early 70s
			%		
Total variance in consumption	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Residence and properties	10.9	13.5	23.9	25.9	32.1
Transportation	1.0	2.3	0.7	1.8	0.9
Food, clothing and care	15.4	12.0	6.1	9.8	6.8
Others	4.7	5.0	2.1	2.3	1.0
Covariance items	67.9	67.2	67.1	60.2	59.2

1. Adjusted for family size.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

were in their early 60s, and then declined substantially. However, even though the overall variance of consumption changed little over the period, the source of that variance did change. Households diverged in spending on residences and properties, while spending on food, clothing, and personal care items converged.

Perspectives

Notes

1. One significant difference between the two surveys is the treatment of housing expenses (Statistics Canada 2000). This study deals with it by imputing housing expenses for homeowners (as in Brown et al. 2010).

2. The use of synthetic cohorts raises the issue of attrition, as some individuals in their late 40s could die or leave the country by the time they reach their mid-70s. Conversely, some households in their early 70s might not be entirely representative of households taken out of the 1982 to 1984 FAMEX in their late 40s—for instance because of immigration. While the issue of attrition through death has been minimized by restricting the end of the study period to a sample of households in their early 70s, little can be done about representativeness issues since both surveys provide a limited (or inconsistent) number of sociodemographic variables.

3. The 1984 and 1990 surveys were only conducted in 15 major cities. To construct a nationally representative sample for all pairs of years, the weights for respondents in each survey were divided by two except for respondents living outside the 15 cities in 1982 and 1992.

4. Comparisons with a younger cohort of individuals yielded very similar results. More precisely, results obtained for the four first timelines described in Table 1 were checked against the following samples: households age 45 to 48 and 47 to 50 in the 1984 and 1986 FAMEX (late 40s); those age 51 to 54 and 53 to 56 in the 1990 and 1992 FAMEX (mid-50s); those age 60 to 63 and 61 to 64 in the 1999 and 2000 SHS (early 60s); and those age 65 to 68 and 66 to 69 in the 2004 and 2005 SHS (late 60s).

5. Alternative definitions of 'per adult' consumption were tested and did not significantly alter the results.

6. Within our sample of households, 62% in their late 40s had children whereas only 6% in their early 70s still had children living in their homes.

7. The same authors (Hurd and Rohwedder 2006) report that some of the decrease in consumption can be accounted for by the substitution of non-market for market activities—for example, home-cooked meals as opposed to dining out—particularly among lower income groups.

8. Although extended care and similar institutions are excluded from the sample of households, it is possible that services, like meals and medical care, may be included in the rent of some older seniors.

9. Actual housing expenses were calculated and followed essentially the same path as imputed expenses.

10. An implicit measure of income derived from housing services can be calculated by using estimates of the balance owing on a mortgage. Since this measure is not always available in consumption data, these estimates are determined by using percentages obtained by year and age group as reported in Brown and Lafrance (2010). According to that study, the implicit source of earnings coming from investments increased income by 13% on average among those age 60 to 69, and by an even larger amount among those at least 70.

11. When housing services are excluded from the definition of household income, the income replacement rate is almost exactly the same as the one reported for a similarly aged cohort of individuals (LaRochelle-Côté et al. 2010).

12. These theories have long been a part of economic literature and were first discussed by Modigliani and Brumberg (1954) and Friedman (1957).

13. More formally, if all four major consumption items are represented by the terms X_1 to X_4, the variance of total consumption can be expressed as follows: $Var(Z)=C_1^2Var(X_1)+C_2^2Var(X_2)+C_2^2Var(X_2)+C_3^2Var(X_3)+C_4^2Var(X_4)+$ covariance terms where the terms c_1 to c_4 represent the shares of each consumption item in total consumption.

14. It was not necessary to impute a housing value for renters as annual rental expenditures declared by renters in survey data are considered to be annual housing consumption.

15. Independent variables used for the ordinary least squares (OLS) regression were the same as those used for the probit model. Other family characteristics, like immigration, could also have an impact on predicted probabilities but FAMEX and the SHS do not consistently report this information in all years.

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Retiring with debt

Katherine Marshall

Debt is most often associated with younger adults, as they borrow to finance their education and purchase housing and vehicles. However, research from the United States suggests that an increasing number of people, both in pre-retirement and retired, are now struggling with debt, as both the percentage with debt and debt levels have risen for those age 55 and over (Copeland 2009, and Draut and McGhee 2004). This paper investigates the debt-holding situation of older Canadians.

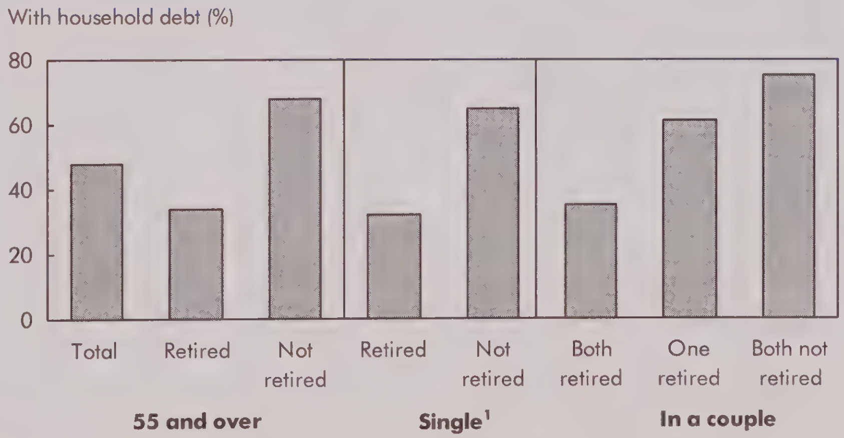
With funding for retirement shifting onto the individual,[1] most Canadians believe they must take an active role in planning for the event. Indeed, among those age 25 to 64, 81% reported they were preparing financially for their retirement. However, only 46% of those preparing for retirement knew how much savings they would need to maintain their standard of living (Schellenberg and Ostrovsky 2010).

Debt management is a recurring theme in retirement planning literature. Debt may be problematic for older workers if not paid off before retirement since repayment can be more difficult on a reduced income. On the other hand, carrying debt into retirement may not necessarily be an issue if repayment is manageable and the household is financially sound.

Financial planning is particularly important for women for several reasons. Compared with men, women have a longer life expectancy and they usually retire having spent fewer years in the labour market with less earned and saved (Glass and Kilpatrick 1998, and Marshall 2000). Divorce or widowhood during this period can also affect economic well-being.

The 2009 Canadian Financial Capability Survey (CFCS) provides information on the income, wealth and debt of retired Canadians, combined with self-assessments of their financial situation and indicators of financial literacy. This article examines the proportion, type, and level of debt among almost 5 million retirees age 55 and over (see *Data source and definitions*). Logistic regression is used to examine the personal, demographic and economic factors that influence the likelihood of carrying consumer or mortgage debt in retirement. The financial situation of indebted retirees is also examined along with three indicators of financial security among retirees.

Chart A One-third of retired individuals age 55 and over have some form of debt



1. Includes widowed, separated and divorced, and never-married individuals.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

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Data source and definitions

The Canadian Financial Capability Survey (CFCS), a new survey conducted between February and May 2009, collected information from Canadians age 18 and over in the 10 provinces. The content focuses on the financial situation of individuals and households as well as their financial knowledge, ability and behaviours concerning money management, budgeting and general financial planning and decisions. One of the goals of the survey is to understand Canadians' use of financial services and their knowledge of programs aimed at facilitating financial planning for retirement.

The **target population** for this article includes all respondents age 55 and over and who, when asked about their employment status, reported themselves to be "retired." Those who reported themselves to be not working and not looking for work and with no employment income in the past year were also counted as retired. If the respondent was part of a couple, his or her spouse would also have to report being retired in order to be considered living in a fully retired household. Approximately 3,730 respondents fit this definition, representing a weighted count of 4,869,000.

As noted above, **retired** is derived from self-reported information regarding employment status. Although households may report some of their income in the previous 12 months came from employment, for the purpose of this study their main activity remains "retired."

Respondents are considered to be in a **couple** relationship if they are currently married or in a common-law relationship and living with a partner, whereas **single** includes those who are divorced (including separated) or widowed, or those who never married, and are not living with a partner.

Assets are the monetary value of all personal or business goods owned, including, for example, real estate, vehicles, jewellery, stocks and bonds, registered retirement savings plans and savings in the bank. Unlike the Survey of Financial Security, the value of registered pension plans is not included among the assets. Respondents were asked to provide a total value for each type of asset and the combined total refers to a household's total assets. If just one of the individual asset questions is marked as "don't know," then the total household asset figure is marked as "not stated." For this reason, upwards of 50% of the total asset variable is unknown, which is a limitation of the survey. However, all calculations made using the asset, debt and net worth variables only use valid responses.

Debt is the amount the respondent and other family members still owe on mortgages; student, payday or other loans; outstanding balances on credit cards or lines of credit; or any other unpaid debt or liability. Although respondents were asked to identify different types of debt, only the value of all debts combined was collected. Debt was collected for the family as a whole since it cannot easily be assigned to just one person in the family. While most respondents knew whether they owned money, many were not able to provide a dollar figure for their total debt. Among the retired population, 21% of those with debt did not know the total value of their indebtedness.

Net worth is calculated by subtracting total debt from total assets. Since both the asset and debt variables had considerable proportions of "not stated" responses, more than one-half of the responses for the net worth variable are unknown.

The following three questions on financial self-assessment, appropriate for retirees and included in the CFCS, were selected to assess household finances and were used as **indicators of financial security**:

1. "Compared to your expectations before you retired, how would you describe your financial standard of living in retirement?"
   (Much better than expected; Better than expected; As expected; Not as good as expected; Much worse than expected)
2. "Is your retirement income sufficient to comfortably cover your monthly expenses?"
   (Yes; No)
3. "Again, thinking of the last 12 months, which one of the following statements best describes how well you and your family have been keeping up with your bills and other financial commitments?"
   (Keeping up with all bills and commitments without any problems; Keeping up with all bills and commitments, but it is sometimes a struggle; Having real financial problems and falling behind with bills or credit commitments; Don't have any bills or credit commitments)

The survey also included a 14-question section to objectively assess an individual's **financial knowledge**. Scores were calculated by adding up the number of correct answers.

Logistic regression models were used to examine the probability of the retired having mortgage and/or consumer debt and the probability of giving a positive response to each of three questions pertaining to financial security. In order to retain as large a sample as possible, dummy "not stated" categories were created for any values missing from the annual household income and household net worth variables. Multicollinearity diagnostic tests were run for all models. Although test statistics indicate some correlation between household income and net worth, both were left in the models because of the problem with missing values. Alternative models were estimated, each including only wealth or income. The results remained the same when the variables were included separately in the models or when they were both in the models together. The entire analysis used 250 bootstrap weights to adjust for the survey design and produce a more accurate variance estimation.

1 in 3 retirees holds some form of debt

Debt can include mortgages; student, payday or other loans; outstanding balances on credit cards or lines of credit; or any other unpaid debt or liability. Among those age 55 and over, one-third of the retired and two-thirds of the not-yet-retired report having some form of debt (Chart A). The proportion holding debt in retirement is about one-third for both fully retired couples (where both partners are retired) and for people living on their own. The proportion of couples with debt is higher when one spouse is retired (61%) or when neither spouse is retired (75%). Research has found that dual-earner couples tend to have higher average debt per person, relative to income—possibly due to their sense of security from having two incomes (TD Economics 2010).

Retirees with debt owe less than their non-retired counterparts

Those retired and in debt owe a median amount of $19,000 compared with their non-retired counterparts who owe $40,000[2] (Chart B). Retired singles owe less than fully retired couples—$13,000 versus $20,000. Not-retired couples were the most likely to have some form of debt and they also had the highest median value owing ($50,000).

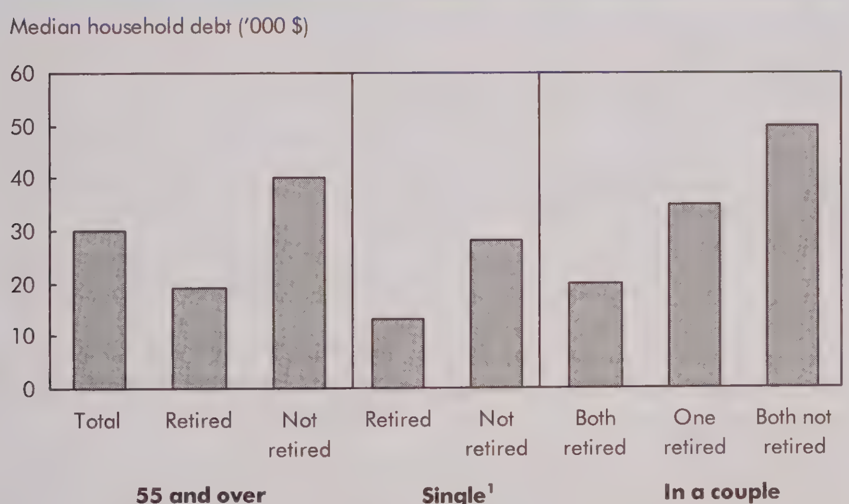
Over one-half of indebted retirees owe less than $25,000

The remainder of the paper focuses on retired individuals and couples where both partners are retired. Of those owing money, the type and level of debt varies little between those in a couple and those on their own. Roughly 60% of retired couples and singles carry consumer debt only, with the remaining 40% almost equally split between those with mortgage debt only and those with both forms of debt (Table 1).

Among retirees, average debt was $60,000, while the median (the value where half owe more and half owe less) was $19,000. This large difference between the median and the mean is characteristic of a skewed distribution: one wherein a small group carries a high debt load while most owe smaller amounts.

Of retirees with debt, 1 in 4 owes less than $5,000. Debt in this range may simply be related to using credit as a convenience or as promotional financing. For example, some big-ticket items can be purchased on credit with no payments or interest for up to one year.[3] One-third of households with debt owe between $5,000 and $24,999, and another one-quarter owe between $25,000 and $99,999. The remaining 17% of households carry a debt of $100,000 or more.

Chart B Retired couples with debt owe a median of $20,000



1. Includes widowed, separated and divorced, and never-married individuals.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Who's likely to hold debt in retirement?

This section assesses which socio-economic and demographic factors are associated with the likelihood of carrying mortgage or consumer debt. Age is a primary factor since it reflects the evolution of personal finances over the life cycle. Level of education, sex, family and immigrant status, urban living and region are included as they may be associated with different housing choices and costs, as well as variations in personal financial behaviours. Finally, income, net worth and home ownership may also be linked to the incidence of debt, either positively, as income and collateral enable further borrowing, or negatively, since they may allow individuals to pay down debt faster or avoid it altogether.[4]

Table 1 Retired individuals age 55 and over by type and level of debt

	Retired, 55 and over	In a couple	Single[1] Total	Single[1] Men	Single[1] Women
			'000		
Total retired individuals	**4,869**	**2,959**	**1,910**	**522**	**1,388**
			%		
Total	100	100	100	100	100
No debt	66	65	68	66	69
Debt	34	35	32	34	31
Total with debt	100	100	100	100	100
Mortgage only	20	21	19	25	17
Consumer only	57	56	58	60	58
Both types of debt	23	24	23	F	26
			$		
All debt					
Average dollars	60,150	69,300	44,830	43,540	45,440
Median dollars	19,000	20,000	13,000	18,000	11,000
			%		
Range of all debt	100	100	100	100	100
Less than $5,000	25	22	31	25	33
$5,000 to $24,999	32	33	30	32	29
$25,000 to $99,999	26	27	25	27	24
$100,000 or more	17	19	15	F	F

1. Includes widowed, separated and divorced, and never-married individuals.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

In order to determine which factors better predict the incidence of holding debt, the variables mentioned above are included in a logistic regression model. This technique estimates the relationship of each variable with the probability of having debt while holding all other variables constant. Descriptive statistics and regression results of the explanatory variables appear in Table 2.

The likelihood of debt falls with age

One possible factor associated with holding debt in retirement is age. The further along the life cycle, the more time someone has had to repay any outstanding debts. Indeed, among retirees age 75 and over, only 20% had some form of debt, compared with 48% of those age 55 to 64 (Table 2). Older retirees were found to be significantly less likely to carry debt even after controls for other factors in the regression model were applied.

Higher education positively linked with having debt

As the level of schooling goes up, so does the incidence of holding debt. While 26% of those with less than a high school diploma had some form of debt, 36% or more with at least a high school diploma had debt. The regression results indicate that only the difference between retirees without a high school education and those with high school or some postsecondary schooling was statistically significant. Other research has shown that higher education is associated with an open or positive attitude towards borrowing (Lee et al. 2007).

As a person's financial knowledge score increases, so does the likelihood of having debt (scores were calculated by adding the number of correct answers reported on a 14-question financial knowledge quiz). Understanding of financial concepts may be associated with borrowing to finance investments or smooth consumption.

Divorced most at risk of debt

Of the almost 5 million retirees in the study, 3.0 million lived with a spouse, 1.2 million were widowed, 500,000 were divorced and 300,000 had never married. Divorcees, at 43%, had the highest rate of holding debt followed by 35% for couples, 30% for the never-married and 28% for widows/widowers. Retired divorcees were found to be significantly more likely (1.3 times) to carry debt than those living in a couple after controls for other factors were applied. The financial cost of divorce, including legal fees, the division of properties and assets, and the setting up of separate households, has short-term economic consequences for both partners, which likely contributes to increased borrowing.[5]

Home ownership and higher income linked to having debt

Among retirees, 8 in 10 own a home. Homeowners are 1.4 times more likely to hold debt than non-owners, but not simply because of a mortgage. Overall, 37% of

Table 2 Socio-economic and demographic characteristics of retired individuals age 55 and over showing percentage with household debt and predicted probability of debt

	Retired		With debt	Ratio of predicted probability
	'000	%	%	
Total	**4,869**	**100**	**34**	...
Age				
55 to 64	1,166	24	48	ref.
65 to 74	1,934	40	37	0.84*
75 and over	1,769	36	20	0.47*
Men	2,012	41	36	ref.
Women	2,857	59	32	1.10
Level of education				
Less than high school	1,742	36	26	ref.
High school or some postsecondary	1,485	31	36	1.21*
University degree	1,621	33	39	1.15
Financial knowledge (continuous score from 0 to 14)	...	...	...	1.04*
Family status				
Widowed	1,152	24	28	1.06
Divorced	465	10	43	1.26*
Never married	294	6	30	0.85
In a couple, both retired	2,959	61	35	ref.
Extra household members[1]				
Yes	898	18	49	1.49*
No	3,971	82	30	ref.
Homeowner	3,637	78	37	1.43*
Non-owner	1,020	22	23	ref.
Annual household income				
Less than $25,000	719	15	29	ref.
$25,000 to $49,999	889	18	42	1.32*
$50,000 to $74,999	533	11	46	1.39*
$75,000 or more	466	10	46	1.37*
Not stated	2,261	46	26	0.88
Net worth (assets minus debts)				
Less than $75,000	530	11	31	ref.
$75,000 to $399,999	648	13	43	0.80
$400,000 or more	772	16	38	0.55*
Not stated	2,919	60	31	0.76*

* significant difference from the reference group (ref.) at the 0.05 level. The logistic regression model also controlled for immigrant status and residence by Census Metropolitan Area (CMA) and region.
1. Single or couple households with additional household members.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

homeowners carry some debt, including 9% who have only a mortgage, 18% who have only consumer debt, and 10% who have both a mortgage and consumer debt. Overall, 28% of homeowners have some consumer debt compared with 23% of non-owners. A similar association was found among older Americans: "As expected, having mortgage debt was a significant and positive factor in the probability of holding consumer debt" (Lee et al. 2007, p. 316). Although houses can be expensive to maintain, homeowners have invested in a valuable, often-appreciating asset. Furthermore, there are financial gains in mortgage-free home ownership since rent does not have to be paid.

Individuals in households with an annual income of less than $25,000 were less likely to hold some form of debt compared with those in higher income groups. However, high net worth was also associated with a lower probability of debt.[6] After controls for other factors were applied, retirees with a household net worth of $400,000 or more were found to be less likely to hold debt than the reference group with a net worth of less than $75,000.

Several other demographic and geographic factors were not significantly related to debt among retirees, including immigrant status, region and Census Metropolitan Area.

Holding debt is often assumed to affect financial security. One way to determine perceptions of financial well-being is to assess responses to questions about personal finances. The next section examines the personal and financial characteristics of all retirees in conjunction with indicators of financial security (see *Data source and definitions*).

Most retirees feel finances meet pre-retirement expectations

From a subjective point of view, the vast majority of retirees give a positive report when asked about their economic well-being. Almost 8 in 10 believe that their financial

Table 3 Financial security indicators of retired population age 55 and over by personal and financial characteristics

	Financial situation better than or as expected before retirement	Ratio of predicted probability		Retirement income is sufficient for monthly expenses	Ratio of predicted probability		Keeping up with bills and other financial commitments not a problem	Ratio of predicted probability	
	%	Model 1	Model 2	%	Model 1	Model 2	%	Model 1	Model 2
Total	**78**	...	...	**86**	...	...	**82**	...	...
Age									
55 to 64	76	ref.	ref.	84	ref.	ref.	77	ref.	ref.
65 to 74	75	1.03	1.04	84	1.04	1.08	80	1.07*	1.08
75 and over	83	1.22*	1.32*	89	1.14*	1.26*	89	1.19*	1.30*
Men	77	0.94	0.90	86	0.98	0.96	83	1.00	1.03
Women	79	ref.	ref.	86	ref.	ref.	82	ref.	ref.
Level of education									
Less than high school	74	ref.	ref.	83	ref.	ref.	80	ref.	ref.
High school or some postsecondary	79	1.06	1.06	87	1.06*	1.10	84	1.08*	1.12
University degree	81	1.13*	1.11	87	1.09*	1.12	84	1.10*	1.11
Family status									
Widowed	78	0.86*	0.93	84	0.87*	0.89	81	0.89*	0.95
Divorced	65	0.71*	0.81*	75	0.77*	0.80*	70	0.76*	0.89
Never married	77	0.92	1.00	86	0.95	1.00	85	0.98	1.09
In a couple, both retired	80	ref.	ref.	88	ref.	ref.	84	ref.	ref.
Immigrant	75	0.89*	0.85*	79	0.82*	0.71*	76	0.85*	0.75*
Canadian-born	79	ref.	ref.	88	ref.	ref.	84	ref.	ref.
Debt	70	...	...	79	...	...	68	...	...
Less than $5,000	69	...	0.69*	79	...	0.79*	67	...	0.52*
$5,000 to $24,999	68	...	0.59*	82	...	0.79*	70	...	0.50*
$25,000 to $99,999	68	...	0.57*	82	...	0.73*	68	...	0.41*
$100,000 or more	73	...	0.73*	78	...	0.71*	67	...	0.49*
No debt	82	...	ref.	89	...	ref.	89	...	ref.
Annual household income									
Less than $25,000	65	...	ref.	75	...	ref.	68	...	ref.
$25,000 to $49,999	76	...	1.20*	85	...	1.16*	78	...	1.23*
$50,000 to $74,999	90	...	1.49*	93	...	1.33*	91	...	1.49*
$75,000 or more	88	...	1.41*	93	...	1.30*	90	...	1.50*
Not stated	78	...	1.15*	86	...	1.15*	85	...	1.29*
Net worth (assets minus debts)									
Less than $75,000	63	...	ref.	72	...	ref.	65	...	ref.
$75,000 to $399,999	76	...	1.13	87	...	1.18*	77	...	1.18*
$400,000 or more	86	...	1.29*	91	...	1.21*	92	...	1.44*
Not stated	79	...	1.10	86	...	1.13	84	...	1.21*

* significant difference from the reference group (ref.) at the 0.05 level. The logistic regression models also controlled for financial knowledge, extra household members, home ownership and residence by Census Metropolitan Area (CMA) and region.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

situation is as expected or better than before they retired; similarly, 86% say their income is sufficient to cover monthly expenses; and 82% report that keeping up with bills and other financial commitments is not a problem (Table 3). When all personal and financial characteristics of retirees are considered together in logistic regression models, certain variables consistently increase or decrease the positive response rate to at least two, and usually all three, financial security questions.

Positive view of financial security increases with age

Retirees age 75 and over are significantly more likely to report positively on their economic situation than those age 55 to 64 even after controls for variables such as level of income and debt are applied. For example, 83% of the older cohort felt they were financially as well off as or better than expected before retirement compared with 76% of the younger group. Similarly, the older cohort is 1.3 times more likely than the younger one to say their income is sufficient for their expenses. These findings may be related to the change in consumption and spending patterns as people age (Chawla 2005).

Divorce related to financial insecurity

Family status is also a factor related to financial security. As opposed to those who never married or are widowed, the divorced are the only group to be significantly less likely than couples to say their income is sufficient for monthly expenses. Their relatively lower reporting of financial security may be associated with their overall financial situation. Although all categories of individuals not living with a partner were financially less well-off than couples, the divorced had the lowest median annual income and lowest median net worth[7] (see *Wealth, income and debt indicators*). The findings suggest that marital dissolution by divorce may have a long-term negative effect on financial security in retirement. "Whether divorce interrupts the savings process or destroys assets, it is unlikely that most individuals will be able to save enough in later life to overcome the loss" (Fethke 1989, p. S121).

Any level of debt may increase financial insecurity

Overall, 82% of retirees without debt report their financial situation to be as expected or better than before retirement, whereas only 70% of those with debt report the same outcome. Similarly, 89% of debt-free retirees claim that their income is sufficient for monthly expenses, compared to 79% or less for those with any level of debt. Also, keeping up with bills and other financial commitments is not a problem for 89% of debt-free retirees, a figure that falls to 68% for those with any amount of debt.

Wealth, income and debt indicators

The Canadian Financial Capability Survey also collected information on the wealth of respondents, although the rate of non-response was high (see *Data source and definitions*). This box presents information on the subpopulation of retirees with debt.

Overall, retirees with debt have a median annual household income of $42,000, a median net worth of $295,000, and a median debt of $19,000 (Table 4). Other indicators that help put household debt in perspective include the median debt-to-income ratio (D/I ratio) and the median debt-to-assets ratio (D/A ratio). The overall D/I for retirees is 0.47 and the D/A is 0.07. Households with high D/I ratios may have higher debt repayments, relative to income, compared with households with low D/I ratios.[8] On the other hand, those with low D/A ratios are assumed to be more financially secure than those with high ratios.

Noteworthy findings from the financial indicators table include:

- There are no significant differences in annual income, net worth and debt levels by the age and sex of retirees, although women have lower D/I and D/A ratios than men.
- Compared with all other groups, the divorced have the lowest annual median income ($28,000) and net worth ($126,500).
- Although median income and net worth are roughly the same between immigrants and Canadian-born retirees, immigrants have significantly higher median debt and D/I and D/A ratios.
- Homeowners have higher debt levels than non-homeowners, but their median income and net worth are also higher.
- Higher household income is associated with higher levels of net worth and debt, but lower D/I and D/A ratios. Those with annual incomes of less than $25,000 have the highest D/I and D/A ratios at 0.58 and 0.16, respectively.
- As net worth increases so does annual income and median debt, however, only the D/A ratio falls as net worth rises.
- Those with higher median debt also tend to have higher annual incomes and net worth. However, those with high debt also have significantly higher D/I and D/A ratios.

Table 4 Financial indicators of retired population age 55 and over with debt

	Median annual household income	Median net worth	Median debt	Median debt-to-income ratio	Median debt-to-assets ratio
	$	$	$		
Total	**42,000**	**295,000**	**19,000**	**0.47**	**0.07**
Age					
55 to 64 (ref.)	48,000	305,000	20,000E	0.53E	0.09E
65 to 74	40,000	287,000	18,000	0.44	0.06
75 and over	35,000	F	15,000E	F	F
Men (ref.)	45,000	310,000	22,000E	0.59	0.09
Women	41,000	282,000E	15,000	0.36*E	0.06*
Level of education					
Less than high school (ref.)	32,000	125,000E	13,000E	F	0.11
High school or some postsecondary	42,000*	287,000*	F	0.45	0.06*E
University degree	55,000*	454,800*	20,000*	0.49E	0.07*
Family status					
Widowed	32,000*	F	F	0.44E	F
Divorced	28,000*	126,500*	F	0.50	F
Never married	33,000*E	166,500*E	10,000*	0.58E	F
In a couple, both retired (ref.)	50,000	360,000	20,000	0.44	0.07E
Immigrant (ref.)	42,000	295,000E	35,000E	0.80E	0.14E
Canadian-born	42,000	297,000	15,000*	0.40*	0.07*
Homeowner	50,000*	369,500	24,000*	0.57	0.07
Non-owner (ref.)	25,000	F	4,000E	F	F
Annual household income					
Less than $25,000	18,000*	F	10,000*	0.58	0.16*
$25,000 to $49,999 (ref.)	35,000	236,000	18,000E	0.49	0.08E
$50,000 to $74,999	60,000*	470,000*	25,000E	0.42E	0.05E
$75,000 or more	100,000*	690,000*E	F	0.33E	0.05E
Not stated	..	F	F	..	..
Debt level					
Less than $5,000	35,000	158,000*E	1,500*	0.04*	F
$5,000 to $24,999 (ref.)	44,000	285,000	12,000	0.26	0.05
$25,000 to $99,999	50,000	369,500E	43,000*	1.00*	0.11*
$100,000 or more	62,000	440,000	170,000*	2.86*	0.26*
Net worth (assets minus debts)					
Less than $75,000	24,000*	F	8,000*	0.47	0.63*
$75,000 to $399,999 (ref.)	38,500	207,500	20,000	0.49	0.09
$400,000 or more	65,000*	704,000*	30,000E	0.50E	0.04*
Not stated	42,000	..	15,000E	F	..

* significant difference from the reference (ref.) group at the 0.05 level
Source: Statistics Canada, Financial Capability Survey, 2009.

Moreover, all levels of debt appear to significantly affect perceptions of financial vulnerability. Debt repayment amounts vary depending on repayment schedules and interest rates, and can be independent of the total amount owing. In other words, it is not necessarily the size of debt that has the potential to strain a monthly budget, but the repayment amount in relation to other expenses and income. However, even

if debt repayments are manageable, the monthly financial obligation and outstanding balance may increase the perception of financial insecurity.

Relatively low income and net worth reduce sense of financial security

Retirees with less than $25,000 in annual household income are significantly less likely than those with higher incomes to give positive responses to the three financial security questions. After controls were applied for net wealth, having a lower income (whether with or without debt) was found to increase the perception of financial insecurity. For example, 75% of those with a household income of less than $25,000 say their income is sufficient to cover monthly expenses compared with 85% of those in the $25,000 to $49,000 income range.

Similarly, retirees with a household net worth of under $75,000 are not as likely to express a high rate of financial security as those with higher levels of net worth.

Conclusion

Using data from the Canadian Financial Capability Survey, this study found that, in 2009, 1 in 3 retired individuals age 55 and over, whether single or in a couple, held mortgage or consumer debt. Since retirement usually coincides with a drop in income and an increased reliance on savings, debt management is a frequently cited component of retirement planning.

The median amount owing for retirees with debt was $19,000. At the high end of the debt scale, 17% owed $100,000 or more. The likelihood of holding debt decreased with age but increased with household income and financial knowledge. Individuals with some postsecondary education were more likely to hold debt than those with less schooling, while households with a high net worth were less likely to have debt. Being divorced was a strong correlate of holding debt among retirees.

The majority of retirees report that their finances are what they had expected them to be prior to retirement, that their income is sufficient to cover expenses, and that they are able to stay on top of bills and keep up with their financial commitments. After controls for personal and financial factors were applied, those with any level of debt were found to be more likely to respond negatively to these questions. For example, while 9 in 10 retirees without debt reported they had no trouble keeping up with bills and other financial commitments, 7 in 10 with debt reported this to be the case.

Roughly 1 in 10 retirees was divorced. This group had lower positive response rates for all three financial security questions, even after controls were applied for other factors, including debt. For example, 65% of the divorced reported that their financial situation was as good as or better than they expected before retirement, compared with rates of 77% or greater for those who were in a couple, were widowed or never married. The substantially lower-than-average income and net worth of the divorced coincide with their poorer perception of their financial condition.

Immigrants, as well as those having relatively low income or net worth, also report lower perceptions of financial security.

The incidence and level of debt among the pre-retired population age 55 and over were higher than among retirees. Two-thirds of pre-retirees carry mortgage or consumer debt with a median value of $40,000.

Perspectives

Notes

1. For example, defined benefit pension coverage fell from 41% in 1991 to 30% in 2006 (Gougeon 2009).
2. The vast majority of respondents knew whether they had any debt but about 1 in 5 did not know the amount owed. These non-response cases were excluded from the level of debt calculations (see *Data source and definitions*).
3. In fact, 92% of those who owe less than $5,000 report having only consumer debt.
4. Since there were relatively high rates of non-response for income and net wealth questions, "not stated" categories for these variables were included in the model to maintain the maximum sample size.
5. American research using longitudinal data found that remarriage can offset the negative financial impact of divorce as newly formed couples begin to rebuild wealth (Wilmoth and Koso 2002). In this study, the marital history of respondents is unknown.
6. Net worth "not stated" was also associated with a lower probability of debt.

7. Although the sample size does not allow for a detailed analysis by sex, the results show similar trends for both men and women by marital status.

8. A better indicator of a household's ability to cover the cost of servicing its debt would be the ratio of its monthly debt repayment to its disposable income; however, these two figures were not collected in the survey.

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The distribution of mortgage debt in Canada

Raj K. Chawla

Many Canadians borrow in order to purchase homes or consumer goods or make financial investments. Credit can be used to shift day-to-day expenses in the short-run. In the long-run, debt can smooth consumption over peoples' life cycle, allowing them to invest in education and housing when they are young and pay down debt as their earnings and equity rise (Modigliani and Brumberg 1954, and Friedman 1957).

However, an overreliance on debt can lead to stress and reduced savings. Moreover, if a high debt load is combined with other adverse shocks, like the loss of a job, household assets may be put at risk.

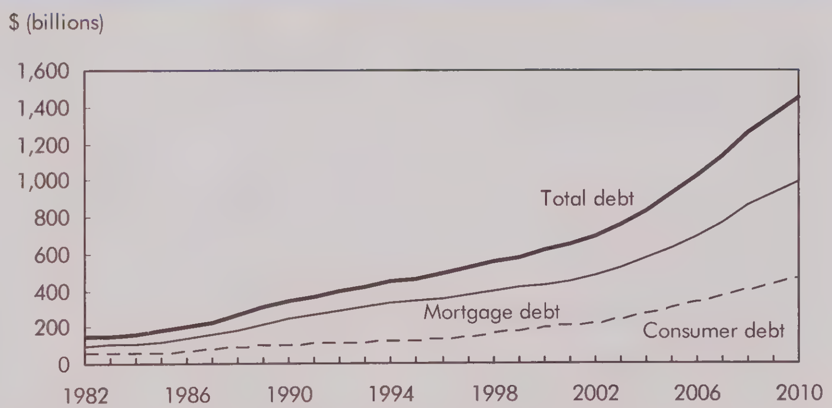
It has been widely reported that household debt is growing. A number of factors have contributed to the increase in household debt: the long-term decline in interest rates; low and stable inflation; housing demand associated with the ripple effect of the baby boom generation; the growth of two-income households; and a "self-perpetuating cycle" whereby increased housing and financial wealth provide collateral for further borrowing (TD Economics 2010).

This article begins with a look at recent trends in total debt, residential mortgages and consumer debt.[1] Since mortgage debt comprises two-thirds of household liabilities, this article focuses primarily on providing a more in-depth look at homeowners with a mortgage. The Survey of Household Spending (SHS) offers a perspective on the distribution of mortgage debt that is unavailable in macro-economic series. The SHS provides information on the characteristics of mortgage-holders, the size of their mortgage liability, and spending on other types of goods and services. Since the survey concepts have remained constant since 1997, changes in characteristics and mortgage liability over time are also presented.

Trends in household debt

Total household debt is the sum of mortgage debt and consumer debt. Consumer debt is not necessarily secured by collateral and includes outstanding debt on credit cards, bank and other loans, personal and home-equity lines of credit, and unpaid bills. In contrast, mortgage debt is generally linked to collateral (most

Chart A Trends in consumer, mortgage and total debt



Sources: Bank of Canada, CANSIM vectors v36408 (total debt), v122698 (consumer debt) and v122736 (mortgage debt), 1982 to 2010.

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often a house). Housing investment supported by a mortgage generally leads to an increase in net wealth through home equity (value minus outstanding mortgage debt) that contributes to financial security[2] (Brown et al. 2010 and Hou 2010).

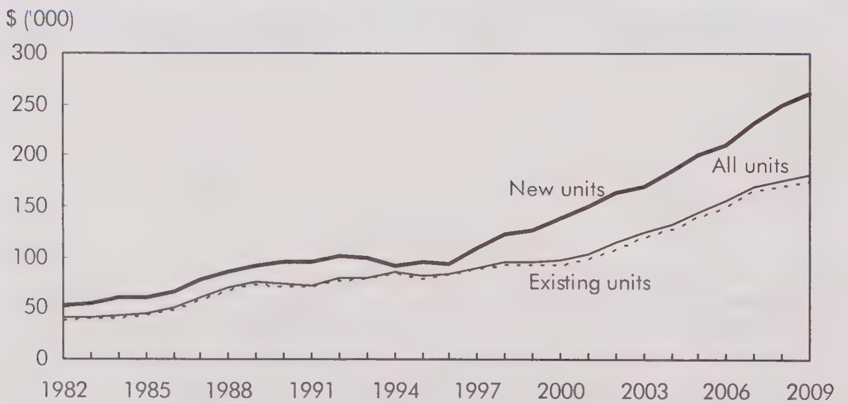
Between 1982 and 2010, mortgage debt grew from $99 billion to $994 billion (in current dollars), while consumer debt increased from $48 billion to $460 billion (Chart A). Over this period, their respective shares of total debt remained fairly stable, with mortgage debt accounting for two-thirds of total household debt.

Mortgage debt tied to price of real estate

One key factor behind the increase in residential mortgages has been the rising values of owner-occupied homes. The average market value of an owned dwelling quadrupled, from $71,800 to $303,500 (current dollars) between 1982 and 2008. Since the amount of mortgage taken out on a dwelling is tied to its purchase price, the average mortgage loan more than quadrupled in the same period, from $41,200 to$176,200.[3]

During the period from 1982 to 2009, new houses became more expensive relative to those on the resale market. This means that more mortgage debt, on average, was required to buy a new dwelling compared to a resale: 38% more in 1982; 48% more in 2008; and 51% more in 2009. Nonetheless, the average mortgage approved for both types of dwellings followed the same pattern, rising from $52,000 to $262,000 for new dwellings and from $37,700 to $173,000 for existing ones (Chart B).

Chart B Trends in average mortgages for new and existing dwellings



Source: Canada Mortgage and Housing Corporation, CANSIM table 027-0017, 1982 to 2009.

Mortgagees and mortgage-free homeowners

According to the 2008 Survey of Household Spending, there were 13 million households in Canada, of which about 65% owned a home (see *Data source and definitions*). Among homeowners, 57% made a mortgage payment in 2008 and the remaining 43% were mortgage-free. The mean age of persons[4] with a mortgage was 45 compared with 62 for those without a mortgage. Hence, on average, mortgagees are much younger than mortgage-free homeowners.

Among mortgagees in 2008, 67% had purchased their homes in the 10 previous years, compared with 71% in 1997. In other words, mortgagees in 1997 were slightly more likely to have bought in the preceding decade, compared with mortgagees in 2008, even though market conditions varied considerably between the two periods.

The aging of the population is mirrored in the distribution of mortgagees who have been in their current homes for less than 10 years. In 1997, 72% of these relatively recent purchasers were under 45 compared with 64% in 2008 (Table 1). At the same time, the proportion of recent buyers from 45 to 64 increased from 26% to 33%—similar to trends noted by Hou (2010).

The average value of a home varied across areas with differing population sizes and by region (Table 2).[5] In areas with a population of 500,000 or more (referred to as large metropolitan areas), the mean value of a home

Data source and definitions

The macroeconomic series relating to household debt is based on national accounts data for the household sector, which are available via the CANSIM database. Annual data compiled by Canada Mortgage and Housing Corporation (CMHC) on mortgage loans approved for new and existing dwellings are also included.

The analysis of mortgage-holders (or households who made a regular mortgage payment during the survey reference year) is drawn from the Survey of Household Spending (SHS) conducted by Statistics Canada on an annual basis since 1997 (previously such data were collected via the Family Expenditure Survey, which was conducted periodically at the national level). The 2009 SHS collected information on components of 2008 expenditures from a sample of approximately 9,800 private households in the 10 Canadian provinces, representing 13.2 million households. Of these, about two-thirds (8.4 million households) were homeowners. All financial data presented are in current dollars since the amount of debt incurred and paid back is all in current dollars, and to provide a glimpse of how prices of homes, mortgages, incomes, and expenditures have changed over time.

Household: A person or group of persons occupying one dwelling unit. The number of households equals the number of occupied dwellings.

Reference person: The household member being interviewed chooses which household member should be listed as the reference person after hearing the following definition: The household reference person is the member of the household mainly responsible for its financial maintenance (e.g., pays the rent, mortgage, property taxes and utilities). This person can be either male or female. When all members of the household share equally, any member may be shown as the reference person. This person must be a member of the household at the time of the interview.

Pre-tax household income: Sum of incomes before taxes and other deductions received during the reference calendar year by all members of the household. Sources include wages and salaries, net income from self-employment, rental and investment income, government transfers (Employment Insurance, Child Tax Benefit, Goods and Services Tax credits, provincial tax credits, social assistance, Old Age Security, Guaranteed Income Supplement, Canada Pension Plan and Quebec Pension Plan), private and employer pension plans, scholarships, alimony, and child support payments. Income-in-kind, windfall gains, capital gains and capital losses are excluded from this definition of income.

Disposable income: Pre-tax income *less* federal and provincial income tax *less* premiums/contributions paid on components pertaining to security (such as Employment Insurance, life insurance, Canada Pension Plan, Quebec Pension Plan, and other government and non-government work-related pension plans). Contributions to registered retirement savings plans and tax-free savings accounts are excluded from these deductions.

Expenditures collected: The SHS includes spending on all goods and services received during the 2008 reference calendar year. All expenses attributable to an owned business are excluded. On the other hand, taxes such as the Goods and Services Tax, provincial sales tax, duties, and customs and excise on all goods and services purchased are included in expenditures.

Total expenditure: Sum of expenditure on current consumption of goods and services, federal and provincial income tax paid, payments pertaining to security, and gifts and contributions made.

Current consumption (also referred to as **total consumer spending**): Includes expenditure on broad components including food, shelter, household operation, household furnishings and equipment, clothing, transportation, health, personal care, recreation, reading material and other printed matter, education, tobacco products and alcoholic beverages, and miscellaneous (for example, union dues and games of chance). For a detailed breakdown of these components and other details about the survey, see Statistics Canada (2009).

Total debt comprises mortgages on owner-occupied homes and other real estate, and all secured and unsecured consumer debt.

Mortgage debt is a debt taken under a legal contract to purchase a property including a home, vacation home and other real estate. It may also be taken by re-mortgaging a property to raise funds for other needs. Mortgage debt is repaid on legally agreed-upon terms including its amortization period, varying or fixed-term interest rates, frequency of payments, and any extra payments to pay off the principal or penalties for missed payments and other foreclosures.

Consumer debt including other secured and unsecured personal loans is debt owed on credit cards issued by chartered banks, department stores, oil companies and other institutions, loans to purchase vehicles and other goods and services, student loans, other secured and unsecured bank loans, personal and home-equity lines of credit, loans from other finance and payday loan companies, loans for any personal unincorporated businesses, and amounts outstanding on unpaid bills.

Mortgage-liability ratio refers to the regular mortgage payment (principal and interest) paid by the household during the reference year expressed as a percentage of its disposable income in that year. Conceptually, this is similar to the concept of debt-to-service ratio (DSR) used in financial literature and by institutions like the Bank of Canada. The only difference is that the DSR includes the payment for total debt rather than for mortgage on the home only.

Years owned a home or the number of years of residence at current dwelling is derived as 2009 *minus* the year moved into that dwelling as reported by a household.

Saving rate is defined as pre-tax household income less its expenditure as a percentage of disposable income.

Average expenditure (income) per household is calculated as the estimated total expenditure (income) of all households divided by the estimated number of households. A similar approach was used to calculate averages by components of expenditure. The denominator used is all households including those who may have had reported zero values for a given component.

Mean value of dwelling is the mean of current market prices of dwellings as reported by home-owning households in the 2008 SHS. In other words, it is the aggregate value of dwellings owned in current market prices divided by the estimated number of homeowners.

Table 1 Profile of homeowners who made a mortgage payment by years of residence[1] and selected characteristics

	1997				2008			
	Under 10 years	10 years or more	Total	Households owning a home less than 10 years	Under 10 years	10 years or more	Total	Households owning a home less than 10 years
	%							
Total	**100.0**	**100.0**	**100.0**	**70.8**	**100.0**	**100.0**	**100.0**	**67.2**
Age								
Under 45	72.1	36.1	61.6	82.9	64.0	24.2	50.9	84.4
45 to 64	25.6	55.3	34.3	52.9	32.6	65.6	43.4	50.4
65 or more	2.3	8.6	4.1	F	3.4	10.2	5.6	F
Area of residence								
Metropolitan								
Population 500,000 or more	50.2	44.3	48.5	73.4	51.3	44.9	49.2	70.0
Population 100,000 to 499,999	17.9	20.2	18.6	68.3	17.0	22.4	18.8	60.9
Other	16.1	14.5	15.6	72.9	19.7	17.9	19.1	69.2
Rural	15.8	21.0	17.3	64.6	11.9	14.8	12.9	62.3
Region								
Atlantic	6.3	10.4	7.5	59.7	6.6	9.2	7.5	59.5
Quebec	20.6	27.4	22.6	64.7	21.7	22.8	22.0	66.0
Ontario	39.7	37.2	39.0	72.1	38.7	39.5	39.0	66.7
Prairies	18.2	13.8	16.9	76.2	18.9	16.9	18.3	69.7
British Columbia	15.2	11.3	14.1	76.6	14.1	11.6	13.3	71.3
Sample size	4,013	1,769	5,782	...	2,333	1,262	3,595	...
Number of households ('000)	2,757	1,135	3,893	...	3,312	1,620	4,932	...

1. Years of residence at a dwelling owned at the time of the survey.
Source: Statistics Canada, Survey of Household Spending, 1997 and 2008.

was $358,000 compared with $289,900 in areas with a population between 100,000 and 499,999 (small metropolitan areas). On a regional basis, the average dwelling value of mortgage-holders in British Columbia was $458,900 in 2008, compared with $320,600 in Ontario.[6]

Generally speaking, the average value of a home was also higher for mortgagees who bought between 1999 and 2008, compared with those who bought in 1998 or earlier. The exception was in British Columbia.

Mortgage liability varies by age, area of residence and region

Although the Survey of Household Spending does not provide data on outstanding mortgage debt, information is available on mortgage payments. Mortgage payments can vary according to the amount financed, interest rate and amortization period.

Since housing prices are generally higher in metropolitan areas with a population of at least 500,000, households living in large metropolitan areas made higher mortgage payments. Among households who still had a mortgage, payments averaged $14,400 in large metropolitan areas in 2008, compared with $9,800 for those living in rural areas (Table 2). On a regional level, British Columbians had the highest mortgage payments ($14,900), followed closely by Ontarians ($14,200). Mortgage-holders in the Atlantic region, on average, had the lowest payments ($8,700).

More recent home buyers had higher mortgage payments than those with longer tenure. Mortgage payments averaged $13,400 among those who had

been in their homes less than 10 years, compared with $10,800 for those who bought before 1999.[7]

Mortgage payments varied less across age groups. Younger mortgagees made somewhat higher payments than their older counterparts. Mortgage holders under age 45 paid $13,200 on average, compared with $12,200 among those from 45 to 64. However, as noted earlier, there is a much higher percentage of mortgage-free homeowners in the over-45 group.

Since mortgage payments alone provide little indication of the financial burden imposed by a mortgage, they must be related to disposable income (i.e., income after federal and provincial income taxes and other social security deductions like contributions, for example, toward Canada Pension Plan, Quebec Pension Plan, Employment Insurance, and pensions). Such a 'mortgage-liability ratio'[8] can be calculated by dividing average mortgage payments by average disposable income. On average, households with a mortgage paid 17 cents of each income dollar on mortgage payments in 2008.

Homeowners who purchased their homes between 1999 and 2008 spent a higher proportion of their disposable income on mortgage payments than those who purchased before 1999—18 cents of every dollar compared with 15 cents. Again, households with a reference person under 45, and those living in large metropolitan areas paid a larger proportion of their disposable income on mortgages compared with other groups. On a regional level, households in British Columbia paid 20 cents of every dollar on mortgage payments compared with 18 cents in Ontario and 14 cents in the Atlantic region.

Table 2 Mean value of dwelling, mortgage payment and disposable income of homeowners with a mortgage by years owning a home and selected characteristics

	Mean value of dwelling			Mean mortgage payment			Mean disposable income		
	Under 10 years	10 years or more	Total	Under 10 years	10 years or more	Total	Under 10 years	10 years or more	Total
					$				
Total	**309,000**	**292,800**	**303,700**	**13,400**	**10,800**	**12,500**	**73,800**	**72,600**	**73,400**
Age									
Under 45	302,200	268,900	297,000	13,500	11,500	13,200	72,200	79,400	73,300
45 to 64	330,000	299,800	315,000	13,500	10,900	12,200	79,500	73,800	76,700
65 or more	F	304,000	275,700	F	8,200	8,300	F	48,700	48,600
Area of residence									
Metropolitan									
Population 500,000 or more	358,000	358,000	358,000	15,500	11,800	14,400	79,700	79,800	79,700
Population 100,000 to 499,999	306,400	264,200	289,900	12,900	11,500	12,400	74,800	73,700	74,400
Other	226,800	227,500	227,000	10,200	8,600	9,700	66,600	62,400	65,300
Rural	237,700	217,000	229,900	10,100	9,200	9,800	59,000	61,300	59,900
Region									
Atlantic	180,000	155,500	170,100	9,400	7,800	8,700	61,400	58,200	60,100
Quebec	220,800	213,800	218,400	10,100	8,500	9,600	62,900	60,600	62,100
Ontario	324,500	312,700	320,600	15,100	12,300	14,200	78,200	78,400	78,300
Prairies	318,100	298,600	312,200	13,400	10,000	12,400	81,900	78,600	80,900
British Columbia	450,100	480,700	458,900	15,400	13,600	14,900	73,400	79,300	75,100

Source: Statistics Canada, Survey of Household Spending, 2008.

Table 3 Distribution of homeowners by size of mortgage payment relative to disposable income and selected characteristics

	All home-owners	Home-owners without a mortgage	Mortgage-liability ratio: Under 10%	Mortgage-liability ratio: 10% to 19%	Mortgage-liability ratio: 20% or more	Mortgage-liability ratio: Total	Home-owners with a mortgage
							%
Sample size	6,840	3,245	820	1,614	1,158	3,595	...
Estimated number of households ('000)	8,601	3,669	945	2,109	1,872	4,932	57.3
				%			
Distribution of households	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	...
Age of reference person							
Under 45	33.6	10.3	46.1	47.6	57.1	50.9	86.9
45 to 64	45.1	47.3	48.2	46.8	37.3	43.4	55.2
65 and over	21.3	42.4	5.7	5.7	5.6	5.6	15.1
Number of years dwelling owned							
Under 10	47.1	20.2	61.5	61.6	76.2	67.2	81.7
10 or more	52.9	79.8	38.5	38.4	23.8	32.8	35.6
Area of residence							
Metropolitan							
Population 500,000 or more	46.7	43.4	39.3	47.6	56.0	49.2	60.4
Population 100,000 to 499,999	18.3	17.7	20.4	19.6	17.0	18.8	58.7
Other	19.1	19.0	26.0	19.3	15.6	19.1	57.5
Rural	15.8	19.8	14.3	13.5	11.4	12.9	46.6
Region							
Atlantic	8.3	9.5	10.6	8.4	4.9	7.5	51.4
Quebec	21.9	21.8	24.3	25.3	17.1	22.0	57.7
Ontario	37.5	35.6	33.0	36.5	44.9	39.0	59.5
Prairies	18.3	18.3	22.0	18.9	15.7	18.3	57.3
British Columbia	14.0	14.9	10.1	10.9	17.4	13.3	54.5
Overall mean							
Age of reference person (years)	52.2	61.8	45.7	45.7	44.1	45.1	...
Years dwelling owned	14.8	23.0	9.2	9.6	7.6	8.7	...
Value of dwelling ($)	303,500	303,400	263,500	297,700	330,500	303,700	...
Mortgage payment ($)	...	...	6,300	11,400	17,000	12,500	...
Mean years dwelling owned by age				years			
Under 45	6.3	11.6	5.7	6.0	4.9	5.5	...
45 to 64	15.6	20.5	11.9	12.1	10.8	11.6	...
65 or more	26.7	28.6	14.9	18.0	13.6	15.7	...
Mean value of dwelling by age				$			
Under 45	300,900	326,700	237,000	301,900	316,300	297,000	...
45 to 64	319,700	325,400	291,500	296,000	358,000	315,000	...
65 or more	273,500	273,100	240,800	277,200	292,000	275,700	...
Mean mortgage payment by age							
Under 45	...	...	6,100	11,800	17,400	13,200	...
45 to 64	...	...	6,800	11,300	17,100	12,200	...
65 or more	...	...	3,500	7,900	11,200	8,300	...

Note: Mortgage-liability ratio is mortgage payment expressed as a percentage of disposable income.
Source: Statistics Canada, Survey of Household Spending, 2008.

The distribution by size of mortgage liability provides further information on those with relatively high mortgage burdens. Three groups are defined: those who spent 20% or more of their disposable income on mortgage payments; those who spent between 10% and 19%; and those who spent less than 10%. Overall, 38% of homeowners paid 20% or more of their disposable income on mortgage payments in 2008; 43% paid 10% to 19%; and the remaining 19% paid less than 10% (Table 3).

Life-cycle theory suggests that mortgage liability should drop as the number of years in the residence increases or as the homeowner ages. Moreover, disposable income is higher among prime-age households than younger households. These patterns are evident in the data—households who spent 20% or more of their disposable income were more likely to be under 45 (57%, as opposed to 46%, among those who spent less than 10%) and more likely to have bought in the past 10 years (76%, as opposed to 62%, among those who spent less than 10%).

Households living in large or small metropolitan areas and households in Ontario and British Columbia were also more likely to have higher mortgage-liability ratios. Of all households with a high mortgage liability (20% or more), 62% were living in these two provinces compared with 51% of all homeowners. These households made average mortgage payments of $17,000 compared with $6,300 for those who paid less than 10% of their income on mortgage payments. In other words, homeowners with a high mortgage liability paid $900 more per month than those with a lower liability.

Changes in mortgage-liability ratio

The recent increase in mortgage debt translated into a larger share of households paying more than 20% of their disposable income on mortgages in 2008 than in 2001. The proportion paying more than this threshold increased from 32% in 2001 to 38% in 2008, while the proportion paying from 10% to 19% declined (Table 4). However, the proportion of households who spent 20% or more of their income on mortgages was 40% in 1997—the beginning of the recent increase in prices. So the burden of mortgage payments in 2008 remained within recent norms.

Still, trends may vary across age groups. The proportion in the two youngest age groups putting 20% or more of their income toward a mortgage increased markedly between 2001 and 2008. However, 2001 represented a low point for both the under-35 group and 35-to-44 group such that the 2008 proportions with relatively high mortgage liabilities were similar to those experienced by their counterparts in the late 1990s.

This contrasts with the trend among older age groups. The proportion of mortgagees from 45 to 54 spending at least 20% of their disposable income on mortgage payments remained relatively stable over the

Table 4 Distribution of households with a mortgage by size of mortgage liability and age, selected years

	Mortgage-liability ratio			
	Under 10%	10% to 19%	20% or more	Total
	%			
All households				
1997	17.8	42.3	39.8	100.0
2001	18.7	49.8	31.5	100.0
2008	18.7	43.2	38.1	100.0
Under 35				
1997	15.4	41.9	42.8	100.0
2001	19.4	47.9	32.7	100.0
2008	20.2	34.5	45.3	100.0
35 to 44				
1997	14.7	43.3	42.0	100.0
2001	16.8	51.0	32.1	100.0
2008	15.2	43.8	41.1	100.0
45 to 54				
1997	22.1	43.2	34.7	100.0
2001	20.8	51.3	27.9	100.0
2008	21.5	48.7	29.8	100.0
55 to 64				
1997	21.8	39.7	38.5	100.0
2001	17.1	51.5	31.4	100.0
2008	19.6	42.3	38.2	100.0

Note: Respective sample sizes were too small to show reliable distributions for households 65 and over.
Mortgage-liability ratio is mortgage payment expressed as a percentage of disposable income.
Sources: Statistics Canada, Survey of Household Spending, 1997, 2001 and 2008.

2000s at a level that was lower than in the late 1990s. Among mortgagees in the pre-retirement age group (55 to 64) in 2008, 38% had a higher mortgage liability and 20% a lower liability—the remaining 42% spent between 10% and 19% of their income on mortgage payments.

Spending differs among those with a higher mortgage-liability ratio

For a given dollar of disposable income, those without a mortgage spent 81 cents on consumption of goods and services, 4 cents on gifts and contributions and saved the remaining 15 cents (Table 5). The corresponding shares for households with a mortgage were 94 cents, 2 cents and 4 cents, respectively.[9] Households without a mortgage spent relatively more on gifts and contributions and saved more. They also spent relatively more on food and out-of-pocket health expenses. Of course, the key difference between the two groups is shelter, as households with a mortgage spent 2.6 times more on housing-related costs than their counterparts without a mortgage. When mortgage payments were excluded, both groups spent almost the same amount on other shelter-related expenses (e.g., property taxes, utilities and repairs/renovations). This reflects the nearly equal average value of their homes: $304,000 for those with a mortgage, $303,000 for those without.

Households spending 20% or more of their disposable income on mortgage payments had different spending patterns than those with a lower mortgage-liability ratio. For every dollar of their disposable income, they

Table 5 Mean disposable income and its disbursement by component of current consumption of homeowners and by size of mortgage liability

	All home-owners	Home-owners without a mortgage	Mortgage-liability ratio: Under 10%	Mortgage-liability ratio: 10% to 19%	Mortgage-liability ratio: 20% or more	Home-owners with a mortgage
			$			
Disposable income	**66,600**	**57,000**	**96,200**	**76,800**	**59,200**	**73,700**
			disbursement of disposable income (%)			
Food	12.6	13.4	10.0	12.4	13.4	12.1
Shelter	24.6	14.9	20.0	26.8	43.6	30.2
Household operation	5.9	5.7	5.5	5.9	6.7	6.0
Household furnishings and equipment	3.6	3.4	3.9	3.6	3.9	3.7
Clothing	4.9	4.7	4.9	5.0	5.2	5.1
Transportation	17.6	17.7	16.9	17.5	18.3	17.6
Health	3.6	4.5	2.7	3.1	3.2	3.0
Personal care	2.0	2.0	1.9	2.0	2.1	2.0
Recreation	7.4	7.5	7.7	7.4	7.3	7.4
Reading material and other printed matter	0.5	0.5	0.4	0.4	0.4	0.4
Education	2.1	1.8	1.9	2.3	2.4	2.2
Tobacco products and alcoholic beverages	2.3	2.3	2.2	2.4	2.3	2.3
Miscellaneous	2.4	2.7	2.3	2.0	2.3	2.2
Total consumption	89.5	81.0	80.1	90.8	111.1	94.4
Gifts and contributions	2.9	4.3	2.7	1.8	1.9	2.1
Savings (pre-tax income less expenditure)	7.6	14.7	17.2	7.3	-13.0	3.5
Disposable income	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	6,840	3,245	820	1,614	1,158	3,595
Number of households ('000)	8,601	3,669	945	2,109	1,872	4,932

Note: Mortgage-liability ratio is mortgage payment expressed as a percentage of disposable income.
Source: Statistics Canada, Survey of Household Spending, 2008.

spent 44 cents on housing, followed by transportation (18 cents) and food (13 cents). Overall, expenditures exceeded their disposable income by 13%. Among those spending less than 10% on mortgage payments, 20 cents of every dollar were spent on housing, 17 cents on transportation, and 10 cents on food. These households also saved 17% of their disposable income. Thus households with a high mortgage-liability ratio allocate more money to overall consumption and less to savings. However, since there is an investment component to mortgage payments, in most cases they lead to increased wealth and lower housing costs as the mortgage is paid off.

Summary

The indebtedness of Canadian households increased from $147 billion in 1982 to $1,454 billion by 2010—in current dollars. Two-thirds of the increase between 1982 and 2010 occurred between 1999 and 2010—a period characterized by relatively low interest and inflation rates. Residential mortgages accounted for two-thirds of overall household debt, with consumer debt accounting for the other third. The split of total household debt along these two key components remained stable over this period.

Mortgage debt increased in lock step with housing prices. The average price of a dwelling rose from $71,800 in 1982 to $303,500 in 2008, while the average mortgage per dwelling increased similarly from $41,200 to $176,200.

Mortgagees are younger and more likely to be recent home purchasers than mortgage-free households. Recent purchasers also tend to have higher mortgage payments than those who have been in their homes longer. Payments are higher, on average, in large metropolitan regions than smaller centres. On a regional level, British Columbia and Ontario mortgage-holders have the highest average payments.

This article examined the financial burden of homeowners by calculating mortgage payments as a proportion of disposable income, referred to as the mortgage-liability ratio. Although debt liability increased over the 2000s, mortgage debt was also relatively high at the end of the 1990s. However, the proportion of households spending at least 20% of their disposable income on mortgages increased faster among younger households in recent years.

Households with a larger mortgage-liability ratio—spending 20% or more of their disposable income on a mortgage—spent more on housing and saved less than households who spent less than 10% of their disposable income on mortgage payments. This group was mainly comprised of younger households and recent purchasers, who typically make larger mortgage payments at this point in their life cycle.

Perspectives

Notes

1. Unless otherwise stated, all financial numbers are expressed in current dollars as financial transactions that relate to borrowing and repayments are made in current dollars. The interest charged on borrowed funds (i.e., the cost of borrowing) is designed not only to protect the loss of purchasing power of funds, but also to cover the lender's cost of capital, service charges and profit intake.
2. Home equity provides ongoing consumption of housing services equivalent to the rental value of the home after adjustments for other costs of ownership are made (primarily property taxes and utilities that would normally be included in rent payments).
3. These numbers are based on CMHC data on loan approvals, which are available via CANSIM (Table 027-0017).
4. In the Survey of Household Spending, a reference person for the household is defined as the household person who is primarily responsible for household finances (see *Data source and definitions*). The age of the reference person should therefore be representative of the homeowner(s).
5. The value of the home is estimated by the reference person.
6. The differences discussed above were statistically significant at the 5% level.
7. The difference between these two groups was statistically significant at the 5% level.
8. The mortgage-liability ratio differs from the debt-service ratio published by the Bank of Canada, which divides all consumer and mortgage debt payments by disposable income. Families are considered financially vulnerable if they spend at least 40% of their disposable income on debt payments (Faruqui 2008). It also differs from Canada Mortgage and Housing Corporation's shelter cost-to-income ratio, which divides all shelter costs by pre-tax income. Affordable housing costs less than 30% of pre-tax income.

9. Note that owner-occupied housing may also be treated as an asset that produces rent-equivalent income. See, for example, Brown et al. (2010).

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Measuring voluntary interhousehold transfers in Canada

Jackson Chung

For the most part, those who live together in households provide for their own well-being. However, there are some situations in which people in one household monetarily support people in other households. Such situations would include parents supporting students who are away at school, immigrants sending money to family members in their home countries or someone helping out a friend who has fallen on hard times. Each of these examples represents an interhousehold transfer.

Interhousehold transfers are a flow of economic resources between households. They are money, goods or services that a household sends to other households with the intention of supporting the recipients' current consumption, without an expectation of repayment. As a result, the recipients' economic well-being is improved by the additional economic resources from the donor.

Data indicate that the overall magnitude of interhousehold transfers is similar to social assistance and about double the level of alimony and other court-ordered payments.[1] Despite their size and potential impact on the economic well-being of Canadian households, few studies have been published on interhousehold transfers and those published have concentrated on immigrant remittances abroad (Houle and Schellenberg 2008).

This article discusses the concepts and measurement issues related to voluntary interhousehold transfers in Canada (see *Data sources and definitions*). It starts by examining the conceptual issues of such transfers. It then estimates the size of and recent trends in interhousehold transfers in Canada, followed by an analysis of the relationship between the value of interhousehold transfers and total household income. A summary and discussion of the results completes the article.

Defining interhousehold transfers

Despite efforts to integrate transfers into a comprehensive framework of household income (Canberra Group 2001), no standard, internationally recognized measure of interhousehold transfers currently exists. Transfers thus remain one of the most difficult aspects of measuring household income. What should or should not be included in the definition of income involves judgments about various aspects of the transfers. While some statistical agencies like Eurostat (Eurostat 2007) and the Australian Bureau of Statistics (Australian Bureau of Statistics 2006) closely follow the Canberra Group's recommendations, others adapt them to suit their own needs. This is perhaps not surprising given the number of concepts involved in defining interhousehold transfers.

Efforts to define interhousehold transfers must take a number of factors about the donor household, recipient household and nature of the transfers into account. The specific aspects to be addressed include whether the transfers are regular or irregular, voluntary or involuntary; whether they are between family members or others; whether they cross international boundaries or should be deducted from the donor's disposable income; and whether they should include in-kind (non-monetary) transfers, loans or repayments.

Loans and repayments

One of the defining characteristics of an interhousehold transfer is that it is given with no expectation of repayment. The International Conference of Labour Statisticians thus recommends that loan repayments be excluded from the definition of interhousehold transfers. The assumption is that a loan and subsequent repayment would result in no net transfer from one household to another (International Labour Organization 2004).

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Data sources and definitions

Three separate Statistics Canada surveys—the Survey of Labour and Income Dynamics (SLID), the Survey of Household Spending (SHS) and the Survey of Financial Security (SFS)—measure voluntary interhousehold transfers, each survey measuring them somewhat differently.

SLID is carried out in the 10 provinces annually, and 70,000 individuals or from 26,000 to 28,000 households responded in a particular year. The questions on voluntary interhousehold transfers were introduced in 2006.[3] In SLID they are defined as the amount of money sent or received by family members not living in the respondent's household, plus regular bill payments paid on the recipient's behalf. From 2006 to 2008, between 791,000 and 880,000 households received voluntary interhousehold transfers, and between 1.4 million and 1.6 million households sent them in a particular year.[4]

The SHS collects data on annual household spending. It is carried out in all 10 provinces each year and in the 3 territories every second year. The number of households that responded varied from 13,900 to 17,200 between 1997 and 2007.[5] The question on voluntary interhousehold transfers was not asked separately before 1998,[6] and it is not possible to identify the amount received with the SHS. A voluntary interhousehold transfer in the SHS is defined as a gift of money sent to any non-household member. From 1998 to 2008, between 3.6 million and 5.4 million households sent these transfers in a particular year.[7] SHS data make it possible for this paper to examine the trend of voluntary interhousehold transfers sent by Canadian households in the last 11 years. They also allow for the examination of the concept, definition and scope of such transfers, and their comparison with those in SLID and the SFS.

The SFS collects information on the net worth (wealth) of Canadian families, including assets, debts, employment, income and education. It is an occasional cross-sectional survey, most recently conducted in 2005,[8] carried out in all 10 provinces, with approximately 5,300 economic families responding in 2005. The 2005 SFS asked questions on the amount of voluntary interhousehold transfers, and restricted the scope of senders and recipients to family members. According to that definition, 839,000 households received voluntary transfers in 2005, while 1.8 million households sent such transfers. SFS data allow for the examination of the relationship between the amounts of voluntary interhousehold transfers sent and received, and the net worth of economic families.

The purpose of each survey is different, therefore the information collected on interhousehold transfers also varies. For example, SHS data are a primary source of input for the Consumer Price Index while SLID is primarily concerned with household economic well-being. As such, the SHS requires detailed reporting of expenditure items (including transfers), while SLID respondents may give a best estimate.

Wording differences across surveys also contribute to differing estimates. The SHS measures 'money gifts' and the transfers have no usage restrictions, SLID measures money sent or received plus the regular payments paid on the recipient's behalf, and the SFS measures the money sent to support the living expenses of the recipients.

The surveys also define the scope of voluntary interhousehold transfers differently. While the SHS requires that respondents state the amount of money gifts sent to people who are not household members, SLID and the SFS measure the amount of money sent to or received from *family members* not living with the respondents. Thus SLID and the SFS exclude a greater portion of voluntary interhousehold transfers beyond the family relationship than the SHS does. A summary of interhousehold transfer information collected by each survey can be found in Table 5.

In terms of the number of donors that sent voluntary interhousehold transfers, the SHS has about three times as many households as SLID and the SFS, while total dollars sent are in the same order of magnitude for all three surveys (Table 1). With regard to recipients, SLID and the SFS have similar numbers of households receiving voluntary interhousehold transfers, but the total amounts received by households in SLID are twice those in the SFS.

Table 1 Households that sent and received voluntary interhousehold transfers, and dollar amounts of the transfers

	SHS 2008	SLID 2008	SFS 2005[1]
		'000	
Households sent voluntary interhousehold transfers	5,362	1,647	1,771
Households received voluntary interhousehold transfers	...	880	839
		$ (millions)	
Total amount sent by Canadian households	10,390	10,859	8,111
Total amount received by Canadian households	...	8,526	4,045

1. SFS figures are for economic families (household-level figures are not available).

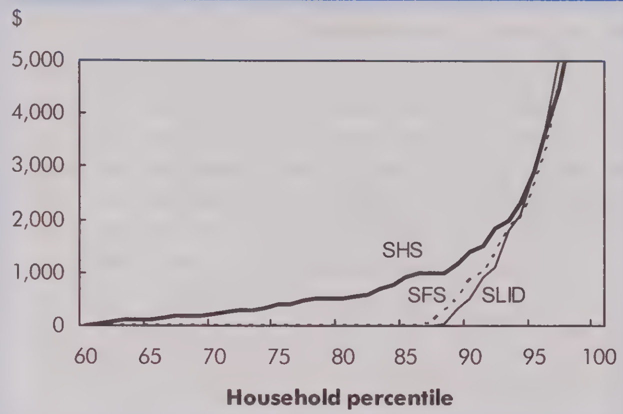
Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008; Survey of Household Spending (SHS), 2008; and Survey of Financial Security (SFS), 2005.

Data sources and definitions (concluded)

A distributional analysis indicates that the SHS is likely better at identifying smaller transfers than the other surveys. The median interhousehold transfer sent is $2,200 in SLID, $2,000 in the SFS and $500 in the SHS (Chart A). In the SHS, 40% reported sending voluntary interhousehold transfers compared to less than 15% for SLID and SFS respondents. However, the top 10% sent similar donations in all three surveys.

All three curves also show that most dollar amounts for voluntary interhousehold transfers are sent by a small percentage of households—less than 5% of all households sent over $5,000 in the reference year. This means the total dollar estimates for such transfers are disproportionately affected by a small number of households. It is possible that some of these households could be misreporting inheritances and bequests as current transfers rather than capital transfers. A maximum limit of $200,000 is set for interhousehold transfers in the SLID questionnaire. Meanwhile, no such limitation exists in the SHS or the SFS.

Chart A Average monetary value of voluntary interhousehold transfers sent, by household percentile



Note: Before the 60th percentile, the average amount was zero. All households are sorted by the amount of voluntary interhousehold transfers sent in the reference year, with households at the 100th percentile giving the largest amount.
Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008; Survey of Household Spending (SHS), 2008; and Survey of Financial Security (SFS), 2005.

Regular versus irregular

This characteristic of a transfer relates to a recipient's likely use of the funds. If the funds are spent on goods and services for immediate or near-term use, they are considered an addition to income. If they are saved or invested in capital, they are an addition to wealth. The Canberra Group suggests that current transfers should be amounts that are comparatively small, often made regularly and relied upon by the recipients (Canberra Group 2001). Meanwhile large, unexpected and one-time transfers are considered capital transfers since the money is more likely to be saved than spent. However, it can be argued that some irregular or large transfers conform to the definition of current transfer, as long as the funds are used for final consumption in the same period. For example, households can provide occasional financial support to non-household members in need, like the temporarily unemployed. Thus it is very difficult in practice to use rules of thumb on the regularity and amount of transfers to determine whether they are capital or wealth transfers. It would be preferable to ask respondents directly whether the transfer was used for current consumption.

Voluntary versus involuntary

In this article, a voluntary interhousehold transfer is defined as not legally enforced, direct cash payments between households. The amount of interhousehold transfers sent by donors is not deducted from donors' income in the analysis of economic well-being and household income. This paper's analysis is limited by the lack of a data source that combines detailed information on consumption and the amount of interhousehold transfers received, and no data exist on interhousehold transfers received from non-family members.

While some interhousehold transfers are mandatory—that is, the result of a legally binding agreement—others are voluntary. For survey purposes, the Canberra Group suggests that legally binding

interhousehold transfers, for example alimony and child support payments, should be considered regular and predictable, as there are legal consequences to senders who fail to remit these payments. In comparison, voluntary interhousehold transfers can be regular or irregular, subject to whether the interhousehold transfers are made regularly and can be relied upon by the recipients (Canberra Group 2001).

To track *involuntary* transfers, like alimony and child support payments by court order or written agreement, Statistics Canada has been using tax data, and the receipt of these transfers has been accounted for in the recipient's total income. In addition, several studies have investigated the payment characteristics of alimony and child support, and how recipients have benefited from these payments (Galarneau 1992 and Robinson 2009). However, the *voluntary* transfers people receive were not measured until questions on interhousehold transfers were introduced in the Survey of Labour and Income Dynamics (SLID) in 2006.

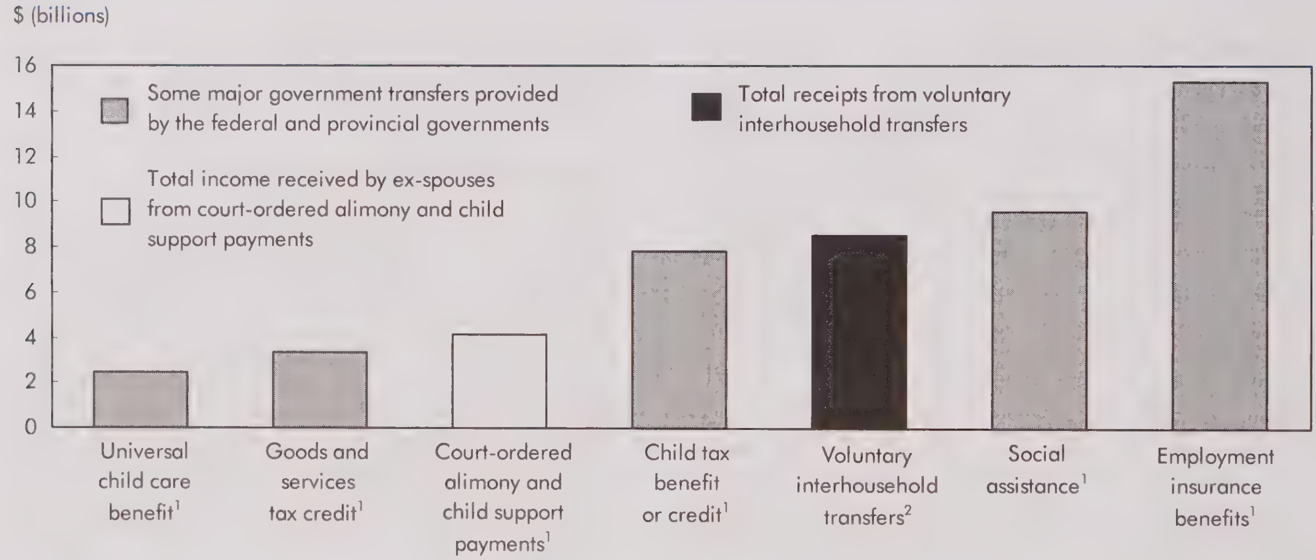
Family member versus any person

One would expect that most interhousehold transfers are received by donors' family members, and some Statistics Canada surveys only ask questions on interhousehold transfers between family members. However, non-family members would also benefit from interhousehold transfers with an increased ability to consume. Thus a comprehensive survey instrument would include interhousehold transfers not only between family members, but also between any persons not living with the respondent.

Inside country versus outside country

Some households send interhousehold transfers to relatives outside Canada. Since these transfers represent a significant source of foreign revenue in developing countries, tracking remittances is essential in order to understand the macro-economies of these countries (Houle and Schellenberg 2008).

Chart B Total dollars received by households from voluntary interhousehold transfers, court-ordered alimony and child support payments, and major government transfers, 2008



1. Included in the definition of total income at Statistics Canada.
2. SLID started collecting data on voluntary interhousehold transfers in 2006. Currently not regarded as part of total income at Statistics Canada.
Source: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008.

Deduction of interhousehold transfers from donor's disposable income

There are at least three alternate views on how the deduction of interhousehold transfers from a donor's disposable income should be treated. First, to avoid double-counting at the aggregate level, the Canberra Group recommends that that the donor deduct the transfer from his or her disposable income (Canberra Group 2001). Alternately, Becker (1974) suggests that the relevant characteristics of a person's social environment,[2] like the welfare of a family member, can be important to an individual's utility function, and, to some extent, his or her economic well-being. From this viewpoint, sending interhousehold transfers to improve the economic well-being of a recipient can provide a positive utility to the donor. Therefore, not deducting the amount of interhousehold transfers from the donor's disposable income might be suggested, since it provides the same utility to the donor as would other spending. A third opinion differentiates between compulsory and voluntary transfers, and recommends only deducting the amount of interhousehold transfers with a compulsory or quasi-compulsory nature. This was adopted in a resolution of the Seventeenth International Conference of Labour Statisticians (International Labour Organization 2004). However, what qualifies as a quasi-compulsory interhousehold transfer remains subject to debate.

In-kind payments and expenditure transfers

In-kind payments in the form of gifts and services provide economic benefits to recipients and, in theory, should be included as income. Unlike monetary transfers, there is no consistent and accurate method of valuation for measuring in-kind payments. The Seventeenth International Conference of Labour Statisticians suggests that most operational definitions of income exclude such transfers until widely accepted methods for valuing them are available (International Labour Organization 2004). Currently, most in-kind payments are excluded from Statistics Canada surveys.

Size and trend of transfers

In 2008, Canadian households received $8.5 billion in voluntary interhousehold transfers from other households (Chart B). This is twice the dollar amount of court-ordered alimony and child support payments received by Canadian households. It is also comparable in size to major government social programs, like social assistance and child tax benefits.

Both the number and proportion of households that sent transfers increased between 1998 and 2008 (Table 2). The number of households that sent voluntary interhousehold transfers increased by 51% from 3.6 million households in 1998 to 5.4 million households in 2008. The proportion of households that sent transfers increased from 31% to 41% in the same period.[9]

Although year-to-year changes are quite volatile,[10] the total amount of interhousehold transfers trended upwards from 1998 to 2008 (Chart C). After adjustments were made for inflation, Canadian households were found to have sent 46% more in voluntary interhousehold transfers in 2008 than 1998 (Statistics Canada 2011). In comparison, real household income increased 33% and charitable donations increased 32% over the same period.

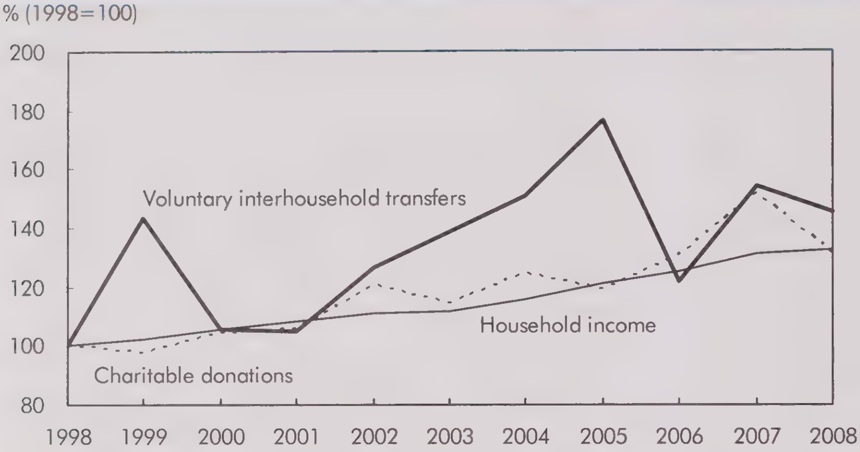
Voluntary interhousehold transfers thus represent a sizeable flow of funds between households and an important addition to income in many recipient households.

Table 2 Households that sent interhousehold transfers from 1998 to 2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
						'000					
Number of households	3,555	3,771	3,320	3,613	3,781	3,895	4,176	4,272	4,834	5,183	5,362
						%					
Percentage of all households	31	33	29	31	32	32	34	34	38	40	41

Source: Statistics Canada, Survey of Household Spending.

Chart C Change in real terms in the amount of interhousehold transfers sent, charitable donations, and household income received, 1998 to 2008



Source: Statistics Canada, Survey of Household Spending.

Relationship with income and wealth

SLID's information on interhousehold transfers sent and received provides the opportunity to examine transfers in relation to the income of donors and recipients.[11] Similarly, the wealth of donors and recipients can be studied using the 2005 SFS. Since these two surveys likely under-represent smaller transfers (see *Data sources and definitions*), the results are more indicative of large transfers than small transfers.

Both the incidence and amount of voluntary interhousehold donations increased with income (Table 3). About 7% of all households in the bottom quartile sent such transfers, with a median amount of approximately $1,500. More households sent voluntary interhousehold transfers as household income increased. The donation rate reached 18% in the top income quartile and the median donation more than doubled to $3,500. The relationship between income and the receipt of interhousehold transfers was less clear. If it were the inverse of the donation pattern, the incidence and amount received would be highest in the bottom quartile and decline in each ascending quartile. Although the percentage of households receiving such transfers was highest in the bottom quartile, the incidence varied much less across quartiles than did the incidence of donation, and was higher in the top quartile than the middle two quartiles. Moreover, the median amount received was higher in the top two income quartiles than the bottom two.

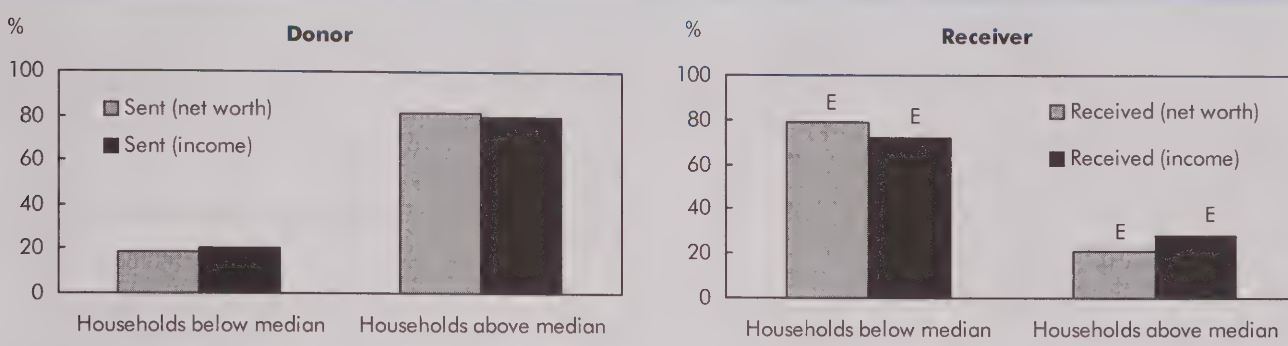
Interhousehold transfers generally flow from more economically well-off households to less economically well-off households (Chart D).[12] Approximately 80% of aggregate interhousehold transfers sent are from households with income or wealth above the median. Conversely, the vast majority of aggregate interhousehold transfers are received by households with income or wealth below the median. However, a slightly higher proportion of aggregate interhousehold transfers are

Table 3 Incidence of households sending and receiving voluntary interhousehold transfers and its average amount by household income group, 2008

	Donor		Receiver	
	Incidence	Median amount	Incidence	Median amount
	%	$	%	$
Household income group				
Bottom quartile	7.0	1,500E	8.4	2,000E
Second quartile	10.3	2,000	5.9	2,400E
Third quartile	14.0	2,400	5.1	3,200E
Top quartile	18.1	3,500	7.0	3,000E
Total	12.3	2,400	6.6	2,500

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2008

Chart D Shares of voluntary interhousehold transfers sent and received by top and bottom half of income distribution and household net worth distribution



Note: SFS figures are for economic families (household-level figures are not available).
Source: Statistics Canada, Survey of Financial Security (SFS), 2005.

received by households with income above the median than by households with wealth above the median.

Interhousehold transfers as a proportion of income

The size of interhousehold transfers in relation to the income of donating and recipient households is an indicator of the relative level of resources being transferred. The relative importance of the transfers would likely be greater for recipients than donators. Voluntary transfers have not been subtracted from the income of donors or added to the income of recipients in these calculations.

Among interhousehold transfer donors, the median household sent 3% of its household income (Table 4). Among all households that received such transfers, the median received an amount equivalent to 5% of its household income.

Most donors sent a relatively small portion of their household income as voluntary interhousehold transfers, with approximately four-fifths of donors sending less than 10%. However, a small number of donors (just under 2%) reported sending more than they earned in 2008. This small group of donors accounted for about 15% of the total value of voluntary interhousehold transfers in 2008.

Among recipients, approximately two-thirds of households reported receiving transfers equivalent to less than 10% of their household income. On the other hand, about 7% of all recipient households received transfers that were greater than their household income.[13] The median ratio for households that received more than 100% of their household income was 3.2 times their household income. These transfers accounted for 37% of the value of voluntary interhousehold transfers received in 2008.

Summary

This paper examined the conceptual and measurement issues related to voluntary interhousehold transfers. Although international practice varies, both the Canberra Group (Canberra Group 2001) and the Seventeenth International Conference of Labour Statisticians (International Labour Organization 2004) recommended measuring and including both voluntary and involuntary interhousehold transfers in the definition of total income. Since 2006, Statistics Canada has been measuring both the voluntary and involuntary components of interhousehold transfers in a single survey. However, voluntary interhousehold transfers continue to be excluded from the definition of total income.

Table 4 Households that sent and received voluntary interhousehold transfers, by amount of voluntary interhousehold transfer in relation to household income, 2008

	Households	Median household income	Share of voluntary interhousehold transfers sent	Median ratio of voluntary interhousehold transfers to household income
	'000	$	%	ratio
Donor				
All donor households	**1,647**	**77,000**	**100.0**	**0.03**
Sent less than 5% of household income	1,036	85,000	18.1	0.02
Sent 5% to 10% of household income	287	68,000	15.6	0.07
Sent 10% to 50% of household income	255	62,000	33.5	0.16
Sent 50% to 100% of household income	F	F	F	0.66
Sent more than 100% of household income	28[E]	F	14.8[E]	1.68[E]
	Households	**Median household income**	**Share of voluntary interhousehold transfers received**	**Median ratio of voluntary interhousehold transfers to household income**
	'000	$	%	ratio
Receiver				
All recipient households	**880**	**53,000**	**100.0**	**0.05**
Received less than 5% of household income	433	72,000	6.7	0.01
Received 5% to10% of household income	129	46,000	6.4	0.07
Received 10% to 50% of household income	209	45,000	28.3	0.18
Received 50% to 100% of household income	47[E]	F	F	0.86
Received more than 100% of household income	62[E]	F	37.1[E]	3.20[E]

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2008

In 2008, the amount of voluntary interhousehold transfers received by Canadian households was twice the total value of alimony and child support payments. It is also in the same order of magnitude as some government transfer programs. Data indicate that both the incidence of transfers and total amount transferred increased substantially from 1998 to 2008.

Although the total amount transferred from donor to recipient households was fairly consistent across surveys, the estimated incidence of donations varied widely, ranging from 12% to 40%. Differing question sequences and treatment of non-response likely explain most of the discrepancy. A distributional analysis indicated that the Survey of Household Spending, the source of the 40% estimate, was much more likely to pick up small interhousehold transfers than the Survey of Labour and Income Dynamics and the Survey of Financial Security.

The incidence and amount of interhousehold donations increased with household income, with both more than doubling from the bottom to the top quartile. The incidence of transfer receipt varied much less by income quartile, with those in the bottom and top income quartiles more likely to receive transfers than those in the second and third quartiles.

Overall, donors sent a median of 3% of their income to other households, while recipients received a median transfer equivalent to 5% of their income. About 7% of recipients reported receiving transfers greater than their income. In addition, just under 2% of donors reported transferring more than their household income.

In summary, voluntary interhousehold transfers represent a sizeable flow of economic resources between households. A better understanding of the dynamics of such transfers would help provide a more complete picture of the economic well-being of households.

Perspectives

Table 5 Data availability on interhousehold transfers in four Statistics Canada surveys

	Survey of Labour and Income Dynamics	Survey of Household Spending	Survey of Financial Security 2005	Survey of Financial Security 1999
Reference period available	2006[1] to 2008	1998[2] to 2008	2005 for assets 2004 for income and transfers	1999 for assets 1998 for income and transfers
Voluntary interhousehold transfers		data availability		
Household/family count				
Sent	Yes[3]	Yes[3]	Yes[4]	Yes[4]
Received	Yes[3]	Unable to disentangle	Yes[4]	Yes[4]
Dollar amount				
Sent	Yes[3]	Yes[3]	Yes[3]	No
Received	Yes[3]	Unable to disentangle	Yes[3]	No
Other dimensions[5]				
Domestic/international transfer	Yes[3]	Yes[3]	No	No
Relationship with receiver/donor	No	No	No	Yes[4]
Payment frequency	No	No	No	Yes[4]
Counted as receiver/donor	Family members that live outside the household	Any persons that live outside the household	Family members that live outside the household	Family members that live outside the household
Unit of analysis	Households/ individual	Households	Economic families	Economic families
Alimony, separation allowance and child support payments[6]				
Dollar amounts sent	Yes[3]	Yes[4]	Yes[4]	No
Dollar amounts received	Yes[3]	Yes[4]	Yes[4]	No

1. SLID 2006 did not ask respondents age 66 and over questions about interhousehold transfers.
2. The 1997 SHS was not used, since involuntary interhousehold transfers such as alimony, separation allowance and child support payments were included as one question on interhousehold transfers.
3. Data that are available and used in this study.
4. Data available from surveys.
5. Listed for comparison.
6. Alimony, separation allowance and child support payments by court order or written agreement are considered involuntary interhousehold transfers and are included for comparison.

Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID); Survey of Household Spending (SHS); and Survey of Financial Security (SFS) questionnaires.

Notes

1. Based on calculations from the 2008 Survey of Labour and Income Dynamics.
2. As suggested in his concept of 'social income,' defined as the sum of a person's own income and the monetary value to him of the relevant characteristics of others (Becker 1974).
3. SLID has had data on alimony and child support payments since 1998.
4. Bootstrap weights developed by Statistics Canada for SLID have been applied for the measurement of variance and standard errors in the 2006, 2007 and 2008 Survey of Labour and Income Dynamics.
5. The sample size was reduced by 28% in 2008.
6. Before 1998, the question on voluntary interhousehold transfers was combined with the question on alimony, separation allowance and child support payments.

7. Bootstrap weights developed by Statistics Canada for the SHS from 2002 to 2008 have been applied for the measurement of variance and standard errors.
8. The information on assets, debts and net worth are based on data collected in the 2005 reference period. The income-related questions are based on 2004 data.
9. Bootstrap weights for the SHS have been applied for the available reference years.
10. Tests indicate that the volatility is concentrated at the top of the distribution. The increase over the period is similar in magnitude, but smoother, when the top 1%, 5% and 10% of remitters are trimmed.
11. The SLID income concept includes involuntary transfers like alimony and excludes voluntary transfers.
12. SFS figures are for economic families, as household-level figures are not available.
13. Voluntary interhousehold transfers with amounts over 100% of the recipient's household income may indicate a strong dependency on money sent by non-household members or capital transfers misreported by respondents.

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What's new?

Recent reports and studies

From Statistics Canada

Apprenticeship programs: who continues, who quits

Between 1995 and 2007, the number of registered apprentices increased by 120%. Yet, only 43% completed their training. Using the 2007 National Apprenticeship Survey, this study addressed some of the factors associated with the behaviours of Canadians in registered apprenticeship programs between 2002 and 2004.

Results indicate several factors negatively impact results, including the lack of consistency in program design, the lack of compulsory training or wage incentives in some trades, physical limitations, and the cost of programs to employers.

Factors contributing to graduation from apprentice to journeyman include being married, having fewer children, belonging to a union, having a high school education, and having a trained journeyman present during training.

For more information, see *The Completion of Registered Apprentices: Who Continues, Who Quits, and Who Completes Programs,* Analytical Studies Branch Research Paper Series, Statisitics Canada, March 2011.

Consumer Price Index

Canadian Consumer prices rose 3.3% in the 12 months to March. The most significant contributors to the largest year-over-year increase since September 2008 were energy prices. Gasoline prices increased 18.9% in March, while prices for fuel oil and other fuels increased 31.3%. Electricity prices rose 4.3%.

Among the eight major components of the CPI, transportation had the largest increase as prices rose 6.6% in the 12 months to March, after advancing 5.1% in February.

Excluding energy, the the Consumer Price Index (CPI) rose 2.4% in the 12 months to March. Prices for food purchased from stores rose 3.7% in March, the largest year-over-year increase since August 2009. Other items bearing significant increases were travel services, clothing, and the purchase of passenger vehicles.

On a year-over-year basis, prices increased in all major components of the CPI in March. Except for alcoholic beverages and tobacco products, prices rose at a faster rate in March than in February.

For more information, see the April 19, 2011 issue of *The Daily* on Statistics Canada's website (www.statcan.gc.ca).

Education following job loss

The half-million Canadian job losses of the 2008 economic downturn renewed interest in the fate of displaced workers; this study uses the Longitudinal Worker File to look at the effectiveness of post-secondary training following job displacement on their earnings outcomes.

Workers who participated in post-secondary training within a year of job-loss had increased earnings of almost $7,000 more than displaced workers who did not take similar training. Characteristics by sex, age, marital status, and union coverage indicate significant differences in benefits.

Despite the benefit of training on worker incomes, however, the study found that job displacement had only a modest effect on the uptake of post-secondary training for all groups examined.

For more information, see the *Long-term Earnings Impact of Post-secondary Education Following Job Loss* in the Analytical Studies Branch Research Paper Series, Statistics Canada, March 2011.

Seeking success in Canada and the United States: children of immigrants

This paper reviews recent research on the labour market outcomes of the children of immigrants in Canada and in the United States. The children of immigrants and the children of domestic-born parents represent a large portion of both countries' populations. In 2006, a third of the Canadian population was composed of immigrants or their children. In Toronto, they account for three-quarters of the population.

In both Canada and the United States, the labour market outcomes of the children of immigrants are equal to, or better than, those of children of domestic-born parents. Children of immigrants tend to have higher earnings and are more likely to be employed in professional occupations than their counterparts with domestic-born parents.

At the same time, there is considerable variation in outcomes by ethnic group or source region. Those from visible-minority groups tend to have higher education levels, which is reflected in more positive labour market outcomes. However, children whose parents came from developed European countries tend to do better in the labour market.

For more information, see *Seeking Success in Canada and the United States: The Determinants of Labour Market Outcomes Among the Children of Immigrants* in the Analytical Studies Branch Research Paper Series, Statistics Canada, March 2011.

Working at home

Using the General Social Survey from 2000 to 2008, this study looks at changes in the proportions of employees working at home. The characteristics of workers most likely to work at home and their reasons for this choice are addressed. In addition, the impact of the place of residence and distance from work is assessed on the incidence of working at home.

In general, the proportion of people working at home increased from 17% to 19%. This was a result of a slight increase for employees and a more substantial increase for the self-employed.

Characteristics of the employed and self-employed groups who worked at home differed. In 2008, the highest proportions of employees who worked at home include university graduates (22%), professionals (23%) and managers (23%). For the self-employed, women (67%), university graduates (69%), technical occupations and professionals (72%) had the largest proportions (71%).

Some of the most common reasons cited for working at home include job requirement (25% of employees), better working conditions (23%), and that home was their usual place of work (18%).

Finally, the farther away a person lives from work, the more likely he or she is to work at home. However, those who live outside urban areas are less likely to work at home.

For more details, see *Working at home: An update*, Canadian Social Trends, Statistics Canada, December 2010.

From other organizations

Doing better for families

Canada posted average scores across a set of key family indicators used by the Organization of Economic Cooperation and Development (OECD). Canadian fertility rates (1.7%), gender pay gaps (20%), and child poverty (15%) are close to the OECD average. However, formal childcare enrollment lags at 40% compared to the average of 56%.

Poverty rates are produced for all OECD countries, and employment is found to be negatively-related to the incidence of poverty.

For more on this subject, see *Doing Better for Families*, at www.oecd.org/social/family/doingbetter.

Persistence of high unemployment

The average unemployment rate across OECD countries remains near the historical peak reached during the recent recession. Persistently high levels of unemployment is a main concern of countries that were most severely affected by the downturn as it can lead to widespread deterioration of human capital, discouragement, and labour market withdrawal.

Those at greatest risk are the young and low-skilled. This report discusses the role of policies in accelerating the return to work. Unemployment insurance, training, and employment protection regulations are also addressed.

This study can be found in the *OECD Economic Outlook*, Volume 2011/1, May 2011.

■ *Unpaid work around the world*

Unpaid work refers to goods and services produced by family members that is not sold on the market. Time-use surveys across OCED countries are used to shed light on the importance of unpaid work as a well-being indicator.

In general, people across OECD countries average 3.4 hours of unpaid work per day which represents 14% of their day. Canada falls within this average. In terms of both paid and unpaid work, people spend about one-third of their time working.

Routine household work such as cooking, cleaning, gardening, and home maintenance dominate unpaid work. On average, people spend two hours and eight minutes per day on housework. Canada comes in just under that at 2 hours.

Men and women do different types of unpaid work. Nevertheless, women in all countries continue to do more unpaid work than men, while men tend to do more market work.

For more on this subject, go to www.oecd.org/els/social/indicators/SAG.

Perspectives

In the works

Some of the topics in upcoming issues

Consumer debt in Canada

The article will examine the growth and the changing composition of consumer debt in Canada between 1982 and 2008. It will also highlight the differences in financial liability (i.e. debt payment as % of disposable income), spending, and saving patterns between households owing consumer debt only, and those owing both consumer and mortgage debt. Most of the analysis is based on the 2008 Survey of Household Spending.

Immigrant self-employment

This study traces trends in self-employment among immigrants and the Canadian-born, using census and Labour Force Survey data. Differing attitudes of immigrants and natives towards self-employment are highlighted with data from the 2000 Survey of Self-employment.

Immigrant educational outcomes

Making use of longitudinal administrative data, this study compares the labour market outcomes of immigrants who have studied in Canada since their arrival with other immigrants who have not undertaken such studies.

Income with savings and spending among the self-employed

Using several data sources, this article examines various income, wealth and spending indicators among the self-employed and compares them with the same indicators for paid employees.

Working low-income families

Using the 2009 Canadian Financial Capabilities Survey, this study examines the financial situation of employed families living in low income and compares it with non-employed families living in low income and employed families not living in low income.

Perspectives

Varia

In this issue: Work absences in 2010

Previous updates

Minimum wage – Summer 2010

Retirement – Summer 2006

Gambling – Autumn 2010

Unionization – Winter 2010

Economic and social indicators

Property taxes – Autumn 2003

Provincial wealth inequality – Spring 2005

Tourism – Summer 2005

Residential construction – Autumn 2005

Education – Winter 2005

Personal debt – Spring 2007

Provincial labour force differences by education – Summer 2008

Contacts

Administrative data

Small area and administrative data
Customer Services
613-951-9720

Business surveys

Annual Survey of Manufactures and Logging
Client Services
613-951-9497

Annual surveys of service industries
Client Services
613-951-4612

Business Conditions Survey of Manufacturing Industries
Claude Robillard
613-951-3507

Census

Labour force characteristics
Sandra Swain
613-951-6908

Income statistics
Eric Olson
613-951-0220

Employment and income surveys

Labour Force Survey
Marc Lévesque
613-951-4090

Survey of Employment, Payrolls and Hours
Sylvie Picard
613-951-4003

Employment Insurance Statistics Program
Gilles Groleau
613-951-4091

Major wage settlements
Workplace Information Directorate (Human Resources and Social Development Canada)
819-997-3117 or 1-800-567-6866

Labour income
Anna MacDonald
613-951-3784

Survey of Labour and Income Dynamics
Survey of Financial Security
Survey of Household Spending
Client Services
613-951-7355 or 1-888-297-7355

General Social Survey

Education, Work and Retirement
Aging and Social Support
Time Use
Client Services
613-951-5979

Pension surveys

Pension Plans in Canada Survey
Bruno Pépin
613-951-4023

Quarterly Survey of Trusteed Pension Funds
Gregory Sannes
613-951-4034

Special surveys

Adult Education and Training Survey
Client Services
613-951-7608 or 1-800-307-3382

National Graduates Survey
Client Services
613-951-7608

Work absences in 2010

There are many kinds of absence. Some, like annual vacation, are generally considered beneficial for both the organization and the employee. Since they are usually scheduled, their effect on the organization can be fairly easily absorbed; the same can be said of statutory holidays. Other absences, for instance those caused by illness and family-related demands, are generally unavoidable, as are those due to inclement weather.

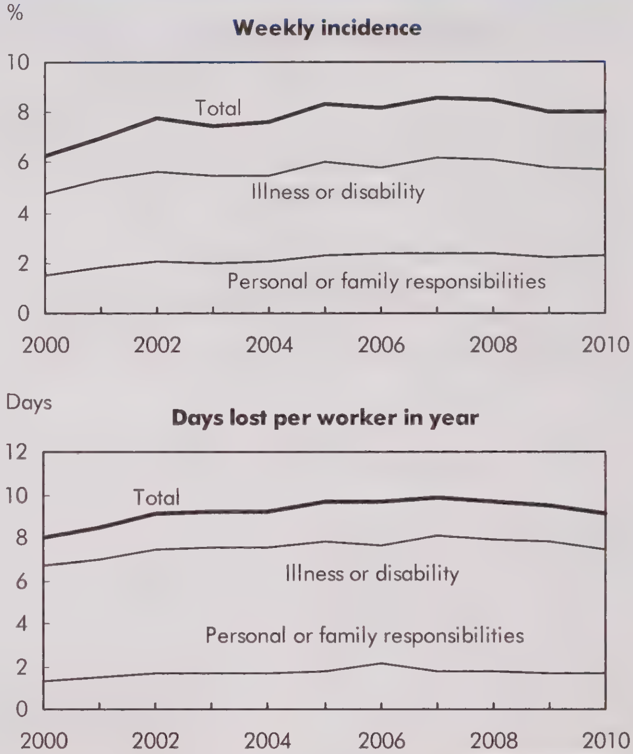
Absenteeism, a term used to refer to absences that are avoidable, habitual and unscheduled, is a source of irritation to employers and co-workers. Such absences are disruptive to proper work scheduling and output, and costly to organizations and the economy as a whole. Although absenteeism is widely acknowledged to be a problem, it is not easy to quantify. The dividing line between avoidable and unavoidable is difficult to draw, and absenteeism generally masquerades as legitimate absence. The Labour Force Survey (LFS) can provide measures of time lost because of personal reasons—that is, illness or disability, and personal or family responsibilities. However, within these categories, it is impossible to determine if an absence is avoidable or unscheduled. LFS data on absences for personal reasons can, however, be analyzed to identify patterns or trends that indicate the effect of absenteeism (see *Data source and definitions*).

Recent trends—2000 to 2010

In the first half of the decade, both the incidence and the number of days lost for personal reasons (illness or disability, and personal or family responsibilities) trended upwards. In the latter half of the decade, the rates were flat or declined slightly. As a result, absence rates were somewhat higher in 2010 than in 2000.

In an average week in 2000, excluding women on maternity leave,[1] 6.3% of all full-time employees holding one job were absent from work for all or part of the week for personal reasons. By 2010, the figure had risen to 8.0% (879,000) (Table 1). Total work time missed also rose, from 3.2% of the scheduled week in 2000 to 3.6% in 2010; this was slightly down from 2009. Extrapolated over the full year, work time lost for personal reasons increased from the equivalent of 8.0 days per worker in 2000 to 9.1 days in 2010.

Chart Work absence rates, 2000 to 2010



Source: Statistics Canada, Labour Force Survey.

Variations in absence rates in 2010

Absence for personal reasons differs among various worker groups. Several factors are responsible, principally working conditions (physical environment, degree of job stress, employer–employee relations, collective agreement provisions and work schedules); adequacy and affordability of community facilities like child care centres and public transportation; family circumstances, especially the presence of preschool children or other dependent family members; and physical health of the worker, a factor closely related to age. Measuring the effects of these and other contributing factors is not easy since many are not captured by the LFS. However, some insight is gained

by examining personal absences in 2010 by selected demographic characteristics, occupation and industry, and other attributes like union and job status.

Demographic differences

In 2010, excluding women on maternity leave and men on parental leave, an estimated 8.0% of full-time employees missed some work each week for personal reasons: 5.7% for own illness or disability, and 2.3% for personal or family responsibilities (Table 2). As a result, full-time employees lost 3.6% of their work time each week.

On average, each full-time employee lost 9.1 days in 2010 for personal reasons (7.4 for own illness or disability plus 1.7 for personal or family demands). This amounted to an estimated 100 million work days for all full-time employees. Men lost fewer days than women—7.6 (6.2 for illness or disability plus 1.4 for personal or family demands) versus 11.0 (8.9 plus 2.1).

The presence of preschool-age children exerts a strong influence on work absences for personal or family responsibilities. In 2010, full-time employees in families with at least one preschool-age child lost an average of 3.1 days, compared with only 1.4 for those in families without children.

Work days missed because of illness or disability tended to rise with age, from an average of 4.7 days for youth (15 to 19) to 11.2 for full-time employees age 55 to 64.

Industry and sector

Work absence rates differ by sector (public or private) and industry, with almost all of the difference arising from illness and disability absences (Table 3). Contributing factors include the nature and demands of the job, the male–female composition of the workforce, and union density—the last being a strong determinant of the presence of paid sick or family leave.

Full-time employees in the public sector (more likely unionized or female) lost more work time (11.8 days) in 2010 for personal reasons than their private-sector counterparts (8.2 days).

At the major (2-digit) industry level, the most work days were missed by employees in health care and social assistance (13.4 days), public administration (11.8) and transportation and warehousing (10.8).

The lowest averages were recorded by full-time workers in professional, scientific and technical services (5.4), primary industries (7.0) and construction (7.3).

Occupation

Contributing factors for absence rates by occupation are similar to those for industry (Table 4). Again, as by major industry, differences arise mainly from time lost due to illness or disability.

The most days lost in 2010 were recorded for full-time employees in health occupations (13.9) and occupations unique to production (11.1). Workers in management (5.8), natural and applied sciences (6.5), and culture and recreation (6.7) recorded the fewest days lost.

Union coverage, job status, workplace size and job tenure

Full-time workers who belonged to unions or were covered by collective agreements missed more work days on average in 2010 for personal reasons than their non-unionized counterparts (12.9 versus 7.3) (Table 5).

Workers with permanent jobs (more likely to be unionized) lost more work days (9.3) than those whose jobs were not permanent (6.7).

Days lost tended to rise with workplace size, increasing from a low of 7.3 in workplaces with fewer than 20 employees (firms more likely to have low union rates) to 11.1 in workplaces with more than 500 employees (firms likely to have high union rates).

Days lost tended to rise with job tenure, with almost all the differences arising from illness and disability. Employees with tenure of up to one year lost 6.2 days, while those with over 14 years lost 11.3 days (the latter group was also likely older).

Province and CMA

Work absence levels differed by geographic area (Table 6), with most of the variation again arising from illness or disability.

Full-time employees in Newfoundland and Labrador (11.0) lost the most work time in 2010, followed by those in New Brunswick, Quebec and Manitoba (10.4 each). Those in Alberta (8.1) and Ontario (8.2) lost the least.

Data source and definitions

The data in this article are *revised*[2] annual averages from the **Labour Force Survey** (LFS). They refer to full-time employees holding only one job. Part-time, self-employed and unpaid family workers are excluded because they generally have more opportunities to arrange their work schedules around personal or family responsibilities. Multiple job holders, too, are excluded because it is not possible, using LFS data, to allocate time lost, or the reason for it, to specific jobs. Women on maternity leave are also excluded. However, men using paid paternity (in Quebec only) and parental leave are included in the calculation until 2006.

Some human resource practitioners exclude persons on long-term illness or disability leave (exceeding one year) from their attendance management statistics. Such persons are, however, included in Statistics Canada's work absence estimates if they count themselves as employed (that is, they continue to receive partial or full pay from their employers). In 2010, the number of employed persons on such long-term illness or disability leave averaged 28,100 in a typical week. Their exclusion would have reduced the weekly work absence incidence for illness or disability from 5.7% to 5.4%, the inactivity rate from 2.9% to 2.7%, and days lost per worker that year from 7.4 to 6.7.

Personal reasons for absence are split into two categories: 'own illness or disability' and 'personal or family responsibilities' (caring for own children, caring for elder relative, and other personal or family responsibilities). Absences for these two types of reasons represented 27% of all time lost by full-time paid workers each week in 2010. Vacations, which accounted for 40% of total time away from work, are not counted in this article, nor are statutory holidays, which represented 15%. Maternity/parental leave represented 12% and other reasons, 6%. The **incidence of absence** is the percentage of full-time paid workers reporting some absence in the reference week. In calculating incidence, the length of work absence—whether one hour, one day, or one full week—is irrelevant.

The **inactivity rate** shows hours lost as a proportion of the usual weekly hours of full-time paid workers. It takes both the incidence and length of absence in the reference week into account.

Days lost per worker are calculated by multiplying the inactivity rate by the estimated number of working days in the year (250).

Reasons for work absences in the LFS

The LFS sets out the following reasons for being away from work:

- own illness or disability
- caring for own children
- caring for elder relative (60 years or over)
- maternity leave (women only)
- parental leave (men only and starting in 2007)
- other personal or family responsibilities
- vacation
- labour dispute (strike or lockout)
- temporary layoff due to business conditions
- holiday (legal or religious)
- weather
- job started or ended during week
- working short time (for example, because of material shortages, or plant maintenance or repair)
- other

  Personal or family responsibilities include caring for own children, caring for elder relative, and other personal or family responsibilities.

Among the census metropolitan areas, Gatineau (12.9), Thunder Bay (11.5) and Sherbrooke (11.4) lost the most days per full-time worker. Calgary (7.1), Toronto (7.2) and Saskatoon (7.7) lost the least.

Perspectives

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Notes

1. Exclusion of maternity leave started in 1997 with the introduction of the revised Labour Force Survey questionnaire.

2. A standard revision has been applied to Labour Force Survey (LFS) estimates, as announced in *The Daily* on January 28, 2011. Beginning with this release, historical comparisons of work absence estimates produced by the LFS must be made with revised historical data. For an overview of these changes, see *Improvements to the Labour Force Survey (LFS) – 2011: The 2011 Revisions of the Labour Force Survey (LFS)* (http://www.statcan.gc.ca/pub/71f0031x/71f0031x2011001-eng.pdf).

Table 1 Absence rates for full-time employees by sex, 2000 to 2010[1]

	Incidence[2]			Inactivity rate[3]			Days lost per worker in year[4]		
	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities
		%			%			days	
Both sexes									
2000	6.3	4.8	1.5	3.2	2.7	0.5	8.0	6.7	1.3
2001	7.0	5.3	1.8	3.4	2.8	0.6	8.5	7.0	1.5
2002	7.8	5.6	2.1	3.6	3.0	0.7	9.1	7.4	1.7
2003	7.5	5.5	2.0	3.7	3.0	0.7	9.2	7.5	1.7
2004	7.6	5.5	2.1	3.7	3.0	0.7	9.2	7.5	1.7
2005	8.3	6.0	2.3	3.9	3.1	0.7	9.7	7.8	1.8
2006	8.2	5.8	2.4	3.9	3.0	0.9	9.7	7.6	2.1
2007	8.6	6.2	2.4	4.0	3.2	0.7	9.9	8.1	1.8
2008	8.5	6.1	2.4	3.9	3.2	0.7	9.7	7.9	1.8
2009	8.0	5.8	2.2	3.8	3.1	0.7	9.5	7.8	1.7
2010	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Men									
2000	5.5	4.1	1.4	2.8	2.4	0.4	7.0	5.9	1.1
2001	6.1	4.6	1.6	3.1	2.5	0.5	7.6	6.4	1.3
2002	6.7	4.8	1.9	3.2	2.6	0.6	8.0	6.5	1.6
2003	6.5	4.7	1.8	3.3	2.6	0.6	8.2	6.6	1.5
2004	6.6	4.6	2.0	3.2	2.6	0.7	8.0	6.4	1.6
2005	7.2	5.2	2.1	3.4	2.7	0.7	8.6	6.9	1.7
2006	7.2	5.1	2.1	3.5	2.7	0.8	8.7	6.7	1.9
2007	7.3	5.2	2.1	3.3	2.7	0.6	8.4	6.8	1.6
2008	7.3	5.1	2.2	3.3	2.7	0.6	8.2	6.7	1.6
2009	6.8	4.9	1.9	3.2	2.6	0.6	8.1	6.6	1.5
2010	6.7	4.7	2.0	3.1	2.5	0.6	7.6	6.2	1.4
Women									
2000	7.5	5.7	1.8	3.8	3.2	0.6	9.4	7.9	1.5
2001	8.2	6.2	2.0	3.9	3.2	0.7	9.8	8.0	1.8
2002	9.2	6.7	2.4	4.3	3.5	0.8	10.7	8.7	1.9
2003	8.9	6.6	2.3	4.3	3.5	0.8	10.7	8.8	1.9
2004	8.9	6.6	2.3	4.3	3.6	0.7	10.9	9.0	1.9
2005	9.6	7.0	2.6	4.5	3.7	0.8	11.2	9.2	2.0
2006	9.5	6.8	2.7	4.5	3.5	1.0	11.2	8.8	2.4
2007	10.3	7.5	2.8	4.8	4.0	0.9	12.0	9.9	2.1
2008	10.2	7.3	2.8	4.7	3.8	0.9	11.8	9.6	2.2
2009	9.5	7.0	2.5	4.5	3.7	0.8	11.4	9.3	2.0
2010	9.6	6.9	2.7	4.4	3.6	0.8	11.0	8.9	2.1

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.
2. Absent workers divided by total.
3. Hours absent divided by hours usually worked.
4. Inactivity rate multiplied by working days in year (250).
Source: Statistics Canada, Labour Force Survey.

Table 2 Absence rates for full-time employees by sex, age, education and presence of children, 2010[1]

	Incidence[2]			Inactivity rate[3]			Days lost per worker in year[4]		
	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities
		%			%			days	
Age									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
15 to 19	6.0	4.4	1.7	2.4	1.9	0.5	5.9	4.7	1.2
20 to 24	6.5	4.5	1.9	2.4	1.8	0.5	6.0	4.6	1.4
25 to 34	7.9	5.3	2.6	3.0	2.3	0.8	7.6	5.7	1.9
35 to 44	8.2	5.6	2.7	3.5	2.7	0.8	8.7	6.8	2.0
45 to 54	7.9	5.9	2.0	3.9	3.3	0.6	9.8	8.4	1.5
55 to 64	9.0	7.0	2.0	5.1	4.5	0.6	12.8	11.2	1.6
65 and over	8.0	5.9	2.1	5.1	4.2	0.9	12.6	10.5	2.1
Men	**6.7**	**4.7**	**2.0**	**3.1**	**2.5**	**0.6**	**7.6**	**6.2**	**1.4**
15 to 19	5.7	4.2	1.6	2.3	1.9	0.5	5.9	4.7	1.1
20 to 24	5.9	4.0	1.8	2.2	1.7	0.5	5.5	4.2	1.3
25 to 34	6.4	4.2	2.2	2.4	1.7	0.6	5.9	4.3	1.6
35 to 44	6.8	4.6	2.2	2.9	2.3	0.6	7.2	5.7	1.5
45 to 54	6.4	4.7	1.7	3.2	2.7	0.5	8.0	6.7	1.2
55 to 64	8.0	6.3	1.7	4.7	4.3	0.5	11.9	10.6	1.2
65 and over	8.0	5.9	2.1	5.2	4.3	0.9	13.1	10.8	2.3
Women	**9.6**	**6.9**	**2.7**	**4.4**	**3.6**	**0.8**	**11.0**	**8.9**	**2.1**
15 to 19	6.5	4.7	1.8	2.4	1.9	0.6	6.1	4.7	1.4
20 to 24	7.3	5.2	2.1	2.7	2.1	0.6	6.6	5.1	1.5
25 to 34	9.9	6.7	3.2	4.0	3.0	0.9	9.9	7.6	2.4
35 to 44	10.0	6.8	3.2	4.3	3.3	1.0	10.7	8.2	2.5
45 to 54	9.5	7.2	2.3	4.8	4.1	0.7	12.1	10.3	1.8
55 to 64	10.1	7.8	2.3	5.6	4.8	0.8	14.1	12.0	2.1
65 and over	8.0	6.0	F	4.7	4.0	F	11.8	9.9	F
Educational attainment									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Less than grade 9	9.0	7.0	2.0	5.4	4.7	0.7	13.5	11.8	1.8
Some high school	8.5	6.3	2.2	4.4	3.7	0.7	11.0	9.3	1.7
High school graduation	7.8	5.8	2.0	3.8	3.2	0.6	9.6	8.0	1.6
Some postsecondary	8.2	6.0	2.2	3.8	3.2	0.6	9.5	8.0	1.6
Postsecondary certificate or diploma	8.4	5.9	2.5	3.9	3.1	0.7	9.7	7.9	1.8
University degree	7.2	4.8	2.4	2.8	2.1	0.7	6.9	5.1	1.7
Presence of children									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
With children	8.4	5.5	2.9	3.6	2.8	0.8	9.1	7.0	2.1
Preschoolers under 5 years	9.7	5.5	4.2	3.8	2.5	1.3	9.5	6.3	3.1
5 to 12 years	8.3	5.5	2.7	3.5	2.7	0.7	8.7	6.9	1.8
13 years and over	7.6	5.6	2.0	3.7	3.0	0.6	9.1	7.6	1.6
Without children	7.7	5.8	1.9	3.6	3.1	0.6	9.1	7.6	1.4

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.
2. Absent workers divided by total.
3. Hours absent divided by hours usually worked.
4. Inactivity rate multiplied by working days in year (250).
Source: Statistics Canada, Labour Force Survey.

Table 3 Absence rates for full-time employees by industry and sector, 2010[1]

	Incidence[2]			Inactivity rate[3]			Days lost per worker in year[4]		
	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities
		%			%			days	
All industries	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Public employees	10.2	7.5	2.7	4.7	3.9	0.8	11.8	9.7	2.0
Private employees	7.3	5.1	2.2	3.3	2.6	0.6	8.2	6.6	1.6
Goods-producing	**7.2**	**5.0**	**2.3**	**3.4**	**2.7**	**0.6**	**8.5**	**6.9**	**1.6**
Primary	5.6	3.4	2.2	2.8	2.0	0.7	7.0	5.1	1.9
Agriculture	6.5	3.2	3.3	2.9	1.9	1.0	7.3	4.7	2.6
Other	5.4	3.5	1.9	2.7	2.1	0.7	6.9	5.2	1.7
Utilities	7.2	4.9	2.3	3.5	2.8	0.7	8.7	7.0	1.6
Construction	6.6	4.3	2.2	2.9	2.3	0.7	7.3	5.7	1.6
Manufacturing	8.0	5.7	2.3	3.8	3.2	0.6	9.5	7.9	1.5
Durable	8.0	5.6	2.4	3.7	3.0	0.7	9.2	7.5	1.7
Non-durable	7.9	5.8	2.1	4.0	3.4	0.5	9.9	8.5	1.4
Service-producing	**8.2**	**5.9**	**2.3**	**3.7**	**3.0**	**0.7**	**9.3**	**7.5**	**1.7**
Trade	7.1	5.1	2.0	3.2	2.6	0.6	8.1	6.6	1.5
Wholesale	6.6	4.6	2.1	2.8	2.3	0.5	7.0	5.6	1.3
Retail	7.3	5.3	1.9	3.4	2.8	0.6	8.6	7.0	1.6
Transportation and warehousing	7.5	5.9	1.7	4.3	3.8	0.5	10.8	9.5	1.3
Finance, insurance, real estate and leasing	7.4	5.2	2.3	3.2	2.5	0.7	8.0	6.3	1.6
Finance and insurance	7.6	5.3	2.2	3.3	2.6	0.6	8.2	6.6	1.6
Real estate and leasing	6.9	4.6	2.4	3.0	2.2	0.7	7.4	5.6	1.8
Professional, scientific and technical	6.7	4.1	2.6	2.2	1.5	0.7	5.4	3.8	1.6
Business, building and support services	9.0	6.8	2.2	4.1	3.5	0.6	10.4	8.8	1.6
Educational services	9.2	6.5	2.7	3.8	3.0	0.8	9.5	7.5	2.0
Health care and social assistance	10.2	7.8	2.4	5.3	4.5	0.9	13.4	11.2	2.2
Information, culture and recreation	7.4	5.3	2.1	3.0	2.5	0.5	7.6	6.3	1.3
Accommodation and food services	6.2	4.4	1.9	3.2	2.5	0.7	8.0	6.2	1.8
Other services	6.4	4.2	2.2	2.5	2.0	0.5	6.3	4.9	1.4
Public administration	11.2	7.9	3.2	4.7	3.8	0.9	11.8	9.5	2.4
Federal	13.5	9.2	4.3	5.3	4.1	1.2	13.3	10.2	3.1
Provincial	10.6	7.9	2.7	4.8	4.0	0.8	12.0	10.0	2.0
Local, other	8.4	6.1	2.3	3.8	3.2	0.7	9.6	7.9	1.7

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.
2. Absent workers divided by total.
3. Hours absent divided by hours usually worked.
4. Inactivity rate multiplied by working days in year (250).
Source: Statistics Canada, Labour Force Survey.

Table 4 Absence rates for full-time employees by occupation, 2010[1]

	Incidence[2]			Inactivity rate[3]			Days lost per worker in year[4]		
	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities
		%			%			days	
All occupations	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Management	5.6	3.8	1.8	2.3	1.8	0.5	5.8	4.5	1.3
Business, finance and administrative	9.1	6.3	2.9	3.8	3.1	0.8	9.5	7.6	1.9
Professional	7.2	4.7	2.5	2.8	2.2	0.6	7.1	5.5	1.6
Financial and administrative	9.1	5.9	3.3	3.6	2.8	0.8	9.0	7.0	2.0
Clerical	9.7	6.9	2.8	4.2	3.4	0.8	10.6	8.6	2.0
Natural and applied sciences	7.3	4.7	2.6	2.6	1.9	0.7	6.5	4.8	1.7
Health	10.2	7.9	2.3	5.6	4.7	0.9	13.9	11.8	2.2
Professional	6.0	3.9	2.1	2.4	1.9	0.5	6.0	4.8	1.2
Nursing	10.8	8.9	1.9	6.3	5.5	0.9	15.8	13.7	2.1
Technical	10.1	7.5	2.6	5.0	4.0	1.0	12.6	10.1	2.5
Support staff	11.2	8.8	2.4	6.5	5.6	0.9	16.3	14.0	2.3
Social and public service	9.1	6.4	2.6	3.7	2.9	0.8	9.2	7.3	1.9
Legal, social and religious	9.3	6.7	2.6	3.9	3.2	0.7	9.7	7.9	1.8
Teachers and professors	8.8	6.2	2.7	3.5	2.7	0.8	8.7	6.7	2.0
High school and elementary	10.2	7.3	3.0	4.0	3.1	1.0	10.0	7.7	2.4
Other	5.3	3.4	1.9	2.3	1.8	0.5	5.7	4.5	1.2
Culture and recreation	8.0	5.2	2.9	2.7	2.0	0.7	6.7	4.9	1.8
Sales and service	7.2	5.4	1.8	3.7	3.1	0.6	9.3	7.7	1.6
Wholesale	6.4	4.2	2.2	2.6	2.0	0.6	6.5	5.0	1.5
Retail	7.2	5.4	1.8	3.6	2.9	0.7	9.1	7.3	1.8
Food and beverage	6.2	4.4	1.8	3.3	2.6	0.7	8.2	6.4	1.8
Protective services	7.7	6.4	1.2	4.5	4.0	0.5	11.2	9.9	1.2
Childcare and home support	9.7	6.6	3.1	4.2	3.1	1.2	10.6	7.7	2.9
Travel and accommodation	7.7	6.1	1.7	4.2	3.6	0.6	10.5	9.1	1.5
Trades, transport and equipment operators	7.5	5.4	2.1	3.7	3.1	0.6	9.3	7.8	1.5
Contractors and supervisors	6.1	3.9	2.2	2.6	2.0	0.6	6.4	5.0	1.4
Construction trades	7.3	5.1	2.2	3.4	2.7	0.7	8.5	6.8	1.7
Other trades	7.3	5.1	2.2	3.4	2.8	0.6	8.5	7.0	1.5
Transport equipment operators	7.5	5.8	1.7	4.6	4.0	0.6	11.4	10.0	1.4
Helpers and labourers	8.8	6.4	2.4	4.0	3.4	0.6	10.0	8.5	1.5
Occupations unique to primary industry	5.9	3.7	2.2	3.1	2.3	0.8	7.7	5.7	2.0
Occupations unique to production	8.8	6.6	2.2	4.5	3.8	0.6	11.1	9.6	1.5
Machine operators and assemblers	8.7	6.4	2.3	4.4	3.7	0.6	10.9	9.3	1.6
Labourers	9.5	7.9	1.6	4.9	4.4	0.4	12.2	11.1	1.1

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.
2. Absent workers divided by total.
3. Hours absent divided by hours usually worked.
4. Inactivity rate multiplied by working days in year (250).
Source: Statistics Canada, Labour Force Survey.

Table 5 Absence rates for full-time employees by workplace size, job tenure, job status and union coverage, 2010[1]

	Incidence[2]			Inactivity rate[3]			Days lost per worker in year[4]		
	Total	Own Illness or disability	Personal or family respon-sibilities	Total	Own Illness or disability	Personal or family respon-sibilities	Total	Own Illness or disability	Personal or family respon-sibilities
		%			%			days	
Workplace size									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Under 20 employees	6.7	4.5	2.2	2.9	2.3	0.7	7.3	5.6	1.7
20 to 99 employees	8.1	5.8	2.3	3.6	2.9	0.7	9.0	7.3	1.7
100 to 500 employees	8.7	6.5	2.2	4.2	3.5	0.7	10.5	8.8	1.7
Over 500 employees	9.2	6.7	2.5	4.4	3.7	0.8	11.1	9.2	1.9
Job tenure									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
1 to 12 months	6.6	4.4	2.2	2.5	1.8	0.6	6.2	4.6	1.6
Over 1 to 5 years	7.6	5.4	2.2	3.3	2.7	0.7	8.3	6.7	1.6
Over 5 to 9 years	8.5	5.8	2.7	3.8	2.9	0.8	9.4	7.4	2.0
Over 9 to 14 years	8.8	6.3	2.5	4.3	3.6	0.7	10.8	8.9	1.9
Over 14 years	8.7	6.6	2.1	4.5	3.9	0.6	11.3	9.7	1.6
Job status									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Permanent	8.1	5.8	2.3	3.7	3.1	0.7	9.3	7.6	1.7
Non-permanent	6.5	4.3	2.2	2.7	2.0	0.7	6.7	4.9	1.8
Union coverage									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Union member or covered by collective agreement	10.3	7.8	2.5	5.2	4.4	0.8	12.9	10.9	2.0
Non-unionized	6.8	4.6	2.2	2.9	2.3	0.6	7.3	5.7	1.6

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.
2. Absent workers divided by total.
3. Hours absent divided by hours usually worked.
4. Inactivity rate multiplied by working days in year (250).
Source: Statistics Canada, Labour Force Survey.

Table 6 Absence rates for full-time employees by province, region and census metropolitan area (CMA), 2010[1]

	Incidence[2]			Inactivity rate[3]			Days lost per worker in year[4]		
	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities	Total	Illness or disability	Personal or family respon-sibilities
	%			%			days		
Province and region									
Both sexes	**8.0**	**5.7**	**2.3**	**3.6**	**2.9**	**0.7**	**9.1**	**7.4**	**1.7**
Atlantic	8.4	6.2	2.2	4.1	3.4	0.6	10.2	8.6	1.6
Newfoundland and Labrador	8.4	6.2	2.3	4.4	3.7	0.7	11.0	9.2	1.8
Prince Edward Island	7.6	5.2	2.4	3.7	3.0	0.7	9.2	7.4	1.8
Nova Scotia	8.4	6.1	2.3	3.9	3.3	0.7	9.8	8.1	1.7
New Brunswick	8.5	6.4	2.1	4.2	3.6	0.5	10.4	9.1	1.3
Quebec	8.6	6.2	2.4	4.2	3.6	0.6	10.4	8.9	1.5
Ontario	7.6	5.2	2.4	3.3	2.5	0.7	8.2	6.3	1.9
Prairies	8.0	5.6	2.4	3.5	2.7	0.8	8.8	6.9	1.9
Manitoba	9.1	6.5	2.6	4.1	3.4	0.8	10.4	8.5	1.9
Saskatchewan	8.6	6.0	2.6	3.9	3.0	0.8	9.6	7.6	2.0
Alberta	7.5	5.2	2.2	3.2	2.5	0.7	8.1	6.2	1.9
British Columbia	7.6	5.8	1.8	3.7	3.2	0.6	9.3	7.9	1.4
All CMAs	**7.9**	**5.6**	**2.3**	**3.4**	**2.8**	**0.7**	**8.6**	**7.0**	**1.7**
St. John's	9.3	6.4	2.9	4.3	3.5	0.8	10.9	8.8	2.0
Halifax	8.7	6.3	2.4	3.8	3.1	0.7	9.4	7.7	1.7
Saint John	8.4	6.4	2.0	4.1	3.6	0.5	10.3	9.0	1.3
Moncton	8.1	5.9	2.2	3.5	2.9	0.6	8.8	7.4	1.4
Saguenay	7.9	5.7	F	4.0	3.5	F	9.9	8.6	F
Québec	8.5	6.3	2.2	3.9	3.4	0.5	9.8	8.5	1.3
Montréal	8.4	6.1	2.3	3.8	3.2	0.6	9.5	8.1	1.4
Trois-Rivières	7.6	5.8	F	3.6	3.3	F	9.1	8.1	F
Sherbrooke	8.3	6.2	F	4.6	4.0	F	11.4	10.0	F
Gatineau	12.4	8.7	3.6	5.2	4.2	1.0	12.9	10.4	2.5
Ottawa	9.9	6.4	3.5	3.5	2.6	0.9	8.7	6.4	2.3
Kingston	9.0	6.1	F	3.8	2.9	F	9.5	7.3	F
Barrie	8.7	6.2	2.5	3.8	3.1	0.6	9.4	7.9	1.6
Brantford	7.4	5.1	F	3.2	2.4	F	8.0	5.9	F
Greater Sudbury/ Grand Sudbury	8.0	5.5	F	3.4	2.7	F	8.6	6.9	F
Peterborough	8.5	5.4	F	3.8	2.9	F	9.5	7.2	F
Guelph	8.4	5.9	F	4.2	3.3	F	10.4	8.2	F
Toronto	7.0	4.8	2.2	2.9	2.2	0.7	7.2	5.4	1.8
Hamilton	7.3	5.3	2.0	3.5	3.0	0.6	8.8	7.4	1.4
St. Catharines–Niagara	7.5	5.4	2.1	3.7	3.1	0.7	9.4	7.6	1.7
London	7.9	5.9	2.0	3.5	3.0	0.5	8.8	7.6	1.3
Windsor	7.0	4.7	2.3	3.3	2.5	0.8	8.3	6.2	2.1
Kitchener–Waterloo	7.8	5.4	2.4	3.2	2.6	0.7	8.1	6.5	1.7
Oshawa	7.5	5.2	2.3	3.2	2.6	0.7	8.1	6.4	1.7
Thunder Bay	9.6	7.1	F	4.6	3.9	F	11.5	9.8	F
Winnipeg	9.3	6.8	2.5	4.1	3.4	0.7	10.3	8.6	1.7
Regina	9.0	6.5	2.5	3.7	3.0	0.7	9.2	7.4	1.8
Saskatoon	7.3	5.3	2.0	3.1	2.5	0.5	7.7	6.3	1.4
Calgary	6.9	4.9	2.0	2.8	2.2	0.6	7.1	5.5	1.6
Edmonton	8.3	5.9	2.4	3.5	2.8	0.8	8.8	6.9	1.9
Abbotsford	7.5	5.9	F	3.7	3.0	F	9.2	7.6	F
Vancouver	7.1	5.5	1.6	3.4	2.9	0.5	8.5	7.3	1.2
Victoria	9.2	6.7	2.5	4.2	3.4	0.8	10.6	8.6	2.0
Non-CMAs	8.2	5.7	2.5	4.1	3.4	0.8	10.3	8.4	1.9
Population centres	8.2	6.0	2.2	4.0	3.4	0.7	10.1	8.4	1.7

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.
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3. Hours absent divided by hours usually worked.
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Source: Statistics Canada, Labour Force Survey.

Catalogue no. 75-001-XPE

PERSPECTIVES

ON LABOUR AND INCOME

AUTUMN 2011
Vol. 23, No. 3

- Immigrants in self-employment
- The income of immigrants who pursue postsecondary education in Canada
- The wealth and finances of employed low-income families
- Job-related training of immigrants

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Autumn 2011 Vol. 23, No. 3

PERSPECTIVES
ON LABOUR AND INCOME

Departments

Perspectives on Labour and Income (Catalogue no. 75-001-XPE; aussi disponible en français: *L'emploi et le revenu en perspective*, n° 75-001-XPF au catalogue) is published quarterly by authority of the Minister responsible for Statistics Canada. ©Minister of Industry 2011. ISSN: 0840-8750.

PRICE: CAN $20.00 per issue, CAN $63.00 for a one-year subscription.

Shipping charges outside Canada:

	Single issue	Annual subscription
United States	CAN $ 6.00	CAN $24.00
Other countries	CAN $10.00	CAN $40.00

All prices exclude sales taxes.

Indexed in the *Canadian Index, Canadian Periodical Index, P.A.I.S. International, Sociological Abstracts, Econlit, Canadian Business and Current Affairs* and *Employee Benefits Infosource.* Also indexed in French in *L'Index de l'Actualité* and *Point de Repère.*

Articles

Self-employment is an important source of jobs for immigrants, more so than for non-immigrants. This article uses data from the Labour Force Survey to examine how self-employed immigrants differ from their non-immigrant counterparts across a number of personal and job characteristics. It also compares the reasons immigrants and non-immigrants report for entering and staying in self-employment, based on data from the Survey of Self-Employment.

Even though immigrants who arrived in Canada in recent decades are more educated than other Canadians, they enrol in postsecondary educational institutions in proportionally greater numbers after their arrival. This article examines a cohort of immigrants who were between 25 and 44 years of age when they arrived in Canada in 1998 and 1999. Using data from the Longitudinal Administrative Databank (LAD), changes in immigrants' employment income over an eight-year period are studied based on whether these individuals pursued postsecondary education in Canada.

This study examines the financial situation of individuals living in low-income families with at least one employed family member compared to low-income families with no employed family members and employed non-low-income families. It presents new findings from the Canadian Financial Capability Survey on the level of net worth, assets and debts, financial security and retirement preparation for these groups.

PERSPECTIVES
ON LABOUR AND INCOME

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Highlights

In this issue

Immigrants in self-employment ... p. 5

- In 2010, about 19% of immigrant workers were self-employed, compared with 15% of their Canadian-born counterparts. About one-half of the difference in the self-employment rate was related to the higher average age of immigrants.
- Self-employed immigrants and non-immigrants were similar in average age, marital status, and presence of children at home. They also shared similarities in working hours, the proportion with paid help, and incorporated business status.
- Although business and professional services was the most frequent industry for both groups, the Canadian-born self-employed were more concentrated in agriculture and other goods-producing industries, while immigrants were more concentrated in trade and transportation industries.
- Immigrants—especially recent immigrants—were more likely than the Canadian-born to report that they had entered self-employment because of a lack of suitable paid jobs. Still, the majority of self-employed immigrants (67%) and non-immigrants (80%) entered self-employment for reasons other than labour market difficulties.
- The majority of both immigrant and Canadian-born self-employed workers would prefer to stay in self-employment even if a paid job at the going wage or salary rate were available for them. The share was lower among immigrants (65%) than the Canadian-born (73%).

The income of immigrants who pursue postsecondary education in Canada ... p. 17

- After eight years in Canada, male and female immigrants who began postsecondary education (PSE) in Canada in the second or third year after their arrival were more likely to have employment income than their counterparts who did not have PSE. However, the gap is much wider for women (more than 15 percentage points) than men (1 to 5 percentage points).
- Among female immigrants with no employment income in the first year after their arrival, those who pursued postsecondary education in Canada had a higher probability of having employment income in the eighth year. Among female immigrants who had employment income in the first year, those who pursued PSE had a lower probability of having no employment income in the eighth year. The differences in probability exist even when controls for differences in individual characteristics at the time of immigration such as age, education level upon arrival, country of origin and immigrant class are taken into account.
- Both immigrant men and women who pursue postsecondary education in Canada experience greater growth in their employment income. For women who begin postsecondary education, the growth rate of employment income over eight years is more than 125%, compared to 61% for women who do not pursue PSE. The employment income of men who begin postsecondary education increases by more than 80%, while that of men who do not do so increases by 50%.

- In most cases, differences in income growth between immigrants with and without postsecondary education in Canada remain when controls for the effect of individual characteristics at the time of immigration are taken into account.

- Also, differences in the growth of employment income related to pursuing postsecondary education in Canada do not differ significantly depending on whether immigrants were with or without a university degree when they arrived.

The wealth and finances of employed low-income families

... p. 29

- The average wealth of low-income families with at least one employed family member ($60,000) is higher than that of low-income families without an employed family member ($3,000) but is significantly lower than that of non-low-income families with at least one employed family member ($389,200).

- While 69% of employed low-income families carry debt compared to 44% of other low-income families, a large proportion is in the form of residential mortgages.

- Compared to not-employed low-income families, a larger proportion of employed low-income families report that they are able to pay for unexpected expenses and are not falling behind on bill payments.

- A larger proportion of employed low-income families are making retirement preparations and anticipate having more diverse sources of retirement income than not-employed low-income families.

Job-related training of immigrants

... p. 39

- Canadian-born employees were more likely to receive job-related training than their immigrant counterparts: 35% versus 31% for men and 37% versus 33% for women.

- Among female workers, family-class immigrants had significantly lower rates of job-related training than Canadian-born workers.

- Male employees who immigrated as adults were 25% less likely to receive job training than their Canadian-born counterparts.

- There were no significant differences in the number of training hours and courses between immigrant and Canadian-born trainees.

- Within the immigrant population, workers with the lowest personal income, in occupations requiring a high school education or less, and in smaller firms were less likely to receive training.

- Major barriers to job-related training perceived by immigrants include family responsibilities and financial constraints.

What's new?

... p. 51

- **From Statistics Canada**

  Debt and family type in Canada

  Competing priorities – education and retirement saving behaviours

  Income management strategies of older couples

  Small, medium and large businesses in the Canadian economy

  Income management strategies of older couples

  Small, medium and large businesses in the Canadian economy

  Labour force survey

  Manufacturing: The year 2010 in review

  Retail trade

  Participation of adult workers in job-related training

- **From other organizations**

  Pensions at a glance 2011

  Taxing wages report

  Tensions from the two-speed recovery

- **Upcoming events**

  Socio-economic Conference 2011

Perspectives

Immigrants in self-employment

Feng Hou and Shunji Wang

Self-employment is an important source of employment and job creation in Canada. New entrepreneurs start businesses for a variety of reasons that tend to cluster around two poles. On the one hand, some are attracted or 'pulled' into self-employment to develop a business idea, gain more flexibility, or because their profession requires them to do so. On the other hand, others are 'pushed' into self-employment because paid job opportunities may be lacking. As a result of these differing motivations and available resources, some will set up and operate businesses that create jobs for themselves and others, while many others will concentrate on their own situation as sole proprietors.[1] The diversification of the self-employed population has been identified as a key feature of labour market developments in developed countries (Arum and Muller 2004).

Self-employment diversity is particularly relevant in the case of immigrants. Some immigrants are selected specifically for their entrepreneurial attributes—Canada's business immigration program seeks to attract investors, entrepreneurs and the self-employed as a means to support economic development. Other immigrants—especially those who arrived recently—may face barriers to finding and keeping jobs or may have jobs for which they are overqualified or receive low earnings, and thus may be pushed into self-employment. As a result, studying the factors that motivate self-employment is a key component of understanding the labour market integration of many Canadian immigrants.

That immigrants are more likely to be self-employed than non-immigrants has been documented in several studies (Frenette 2002 and Li 2001). In 2006, about 17% of immigrant working men age 20 to 64 were self-employed, compared with 12% of Canadian-born men (Hou et al. forthcoming). Such differences may arise if immigrant and Canadian-born workers have different demographic characteristics or are concentrated in industries and occupations that have higher rates of self-employment. On the other hand, they may also be related to different motivations to enter and remain in self-employment—a possibility that has not been well-examined in Canada (Li 2001 and Schuetze 2010).

This article thus has two major objectives. The first is to examine how self-employed immigrants differ from their Canadian-born counterparts across a number of personal and job characteristics. The second is to determine whether immigrants report different reasons for entering and staying in self-employment. The article begins with a look at the long-term and recent trends in immigrant and non-immigrant self-employment using the census and Labour Force Survey (LFS). It then examines the characteristics of the self-employed compared to paid employees among immigrants and non-immigrants. Finally, it uses the Survey of Self-Employment (SSE) to examine whether immigrants and non-immigrants express different reasons for entering, remaining in and exiting self-employment.

Long-term trends in self-employment

In Canada, the number of self-employed workers increased significantly in the 1980s and 1990s (Picot and Heisz 2000; Gauthier and Roy 1997; Kuhn and Schuetze 2001). The self-employment rate increased steadily from the mid-1970s to the late 1990s, dipped slightly in the early 2000s and stabilized in the late 2000s (LaRochelle-Côté 2010). The upward trend in self-employment has been linked to a variety of factors, including the aging of the labour force, technological

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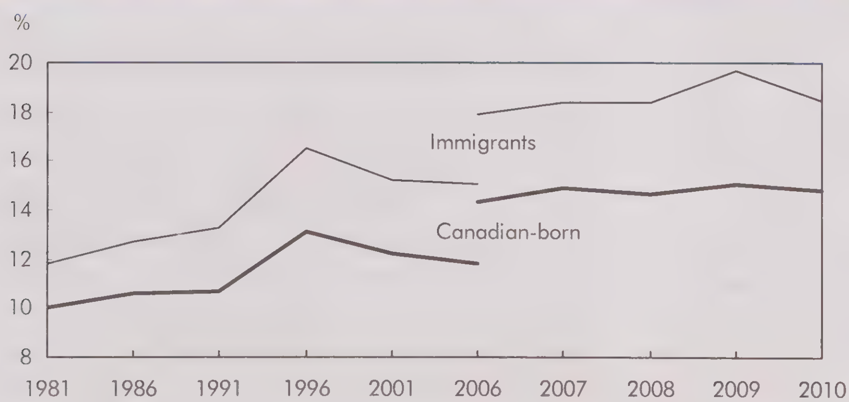
changes and government policies (Lin et al. 1999). The aging of the labour force should contribute to the rise in self-employment because older workers are more likely to be self-employed (Kamhi and Leung 2005); the availability and affordability of technologies like personal computers and the Internet reduce the operating costs of small businesses; and some industries and occupations with higher rates of self-employment have increased their share in the economy (Gauthier and Roy 1997; Kamhi and Leung 2005; Statistics Canada 1997). Kuhn and Schuetze (2001) suggest that, from the 1980s to 1990s, the rise in self-employment among men is mostly attributable to declining opportunities in paid employment for men. For women, however, most of the rise in self-employment is associated with improved opportunities and attractiveness of self-employment to them.

In addition, past changes in government policies regarding marginal personal income taxes and programs assisting self-employment and small businesses have also been found to be related to the rise in self-employment (Lin et al. 1999 and Schuetze 2000). Finally, self-employment increased during periods of economic downturns and did not immediately decline afterwards, except in the most recent downturn (LaRochelle-Côté 2010).

Both immigrants and the Canadian-born have contributed to the increase in self-employment since the early 1980s (Chart A). The long-term trends were estimated with census data from 1981 to 2006, and recent LFS trends from 2006 to 2010.[2] Due to conceptual differences, the LFS data produce higher self-employment rates than the census (see *Data sources and definitions*).[3] Self-employment grew faster among immigrants between 1981 and 1996, and, in the late 1990s and 2000s, self-employment rates fell slightly and subsequently stabilized for both groups.

Chart A Self-employment as a percentage of total employed individuals by immigration status



Sources: Statistics Canada, Census of Population, 1981 to 2006; Labour Force Survey, 2006 to 2010.

Throughout the study period, immigrants were consistently more likely to be self-employed than non-immigrants. In 1981, about 12% of immigrants were self-employed, compared with 10% of the Canadian-born. By 1996, the self-employment rate had increased to 17% for immigrants and 13% for non-immigrants. By the late 2000s, about 19% of immigrant workers were self-employed, compared with 15% of the Canadian-born. The higher average age of immigrants accounted for about one-half of the difference in self-employment rates between immigrants and the Canadian-born.[4]

The difference between immigrants and non-immigrants also tended to be greater during periods of labour market slack. This suggests that immigrants are more likely than non-immigrants to seek self-employment during periods of economic stagnation. In 2009—during the recent labour market downturn—the gap in self-employment rates between immigrants and non-immigrants was 4.6 percentage points, compared with a gap of 3.8 percentage points in 2008. Between 2008 and 2009, the self-employment rate rose by 1.3 percentage points among immigrants and by 0.5 percentage points among the Canadian-born.

Immigrants who had been in Canada for more than 10 years had a higher self-employment rate than those who arrived during the past 10 years (Chart B). From 1981 to 2006, the difference in self-employment rates between these two groups was in the range of 5 to 6

Data sources and definitions

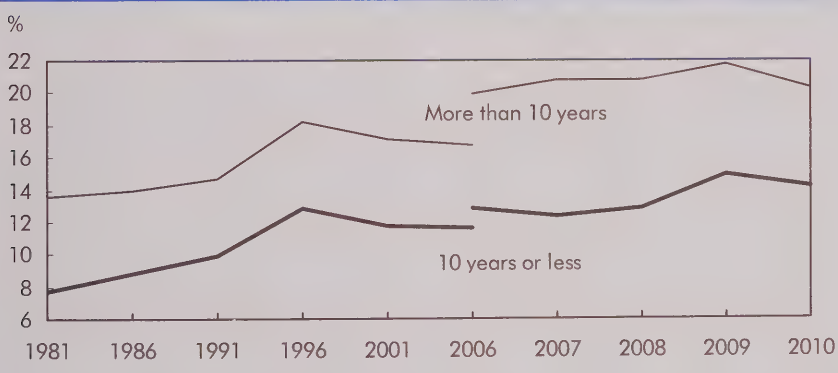
This study uses the 20% sample files of the 1981, 1986, 1991, 1996, 2001 and 2006 censuses, and the combined May and November files of the 2006 to 2010 Labour Force Survey (LFS) to calculate the share of the self-employed among all employed workers. The selected sample consists of individuals who were employed in the week prior to the census or in the LFS reference week. Institutional residents and persons living in the Northwest Territories, Yukon and Nunavut were excluded. Immigrants who arrived in the census or survey year and individuals whose immigration status were not identified in the LFS were also excluded.

In both data sources, self-employed workers are defined as employed individuals who work for themselves (including owners of incorporated or unincorporated businesses) or work without pay for family members. The self-employment rate estimated from the census tends to be lower than that from the LFS. In the census, self-employed workers who have no work during the reference week and do not report working any hours or being absent from work would be classified as "unemployed" or "not in the labour force." The same self-employed workers may be coded as "employed" in the LFS if they attributed their absence to not having any work during the reference week. Some persons who are considered paid workers in the census are considered self-employed persons in the LFS, including those who work at jobs like babysitting and cleaning for private households, and as newspaper carriers.

To examine the reasons for entering and staying in self-employment, this study used data from the Survey of Self-Employment (SSE), which was conducted by Statistics Canada for Human Resources Development Canada in 2000. The main objective of the survey was to provide a profile of self-employed workers in Canada. The survey content covered many aspects of self-employment, including reasons for entering self-employment, perceptions about self-employment, work arrangements, training, income insurance and other insurance coverage, and retirement preparation. The survey sample was restricted to those who were age 15 to 69 and self-employed in the main job. The final sample included 4,015 self-employed people. In the analysis, 30 observations whose immigration status was not stated were excluded. Among the remaining 3,985 respondents, 470 were immigrants.

percentage points. More recent data from the LFS suggest that this difference could be even larger (6 to 8 percentage points). About two-thirds of the difference in self-employment rates between recent and more established immigrants is due to the higher average age of established immigrants.[5]

Chart B Self-employment as a percentage of total employed immigrants by years in Canada, 1981 to 2010



Sources: Statistics Canada, Census of Population, 1981 to 2006; Labour Force Survey, 2006 to 2010.

Recent immigrants also tended to have lower self-employment rates than the Canadian-born.[6] Again, this was related to the fact that recent immigrants are younger on average. After controls were put in place for age differences, recent immigrants and the Canadian-born were found to have similar self-employment rates.

Characteristics of self-employed workers

Both immigrant and non-immigrant men were more likely to be self-employed than their female counterparts. The self-employed, whether immigrants or non-immigrants, also tended to be older, more likely to be married and have children at home than paid workers (Table 1).

Educational attainment also differed between paid and self-employed workers. Self-employed workers were more likely to have

Table 1 Sociodemographic characteristics of self-employed and paid workers

	Canadian-born		Immigrants	
	Paid workers	Self-employed	Paid workers	Self-employed
	%			
Sex				
Men	50.1	64.3	50.3	67.0
Women	49.9	35.7	49.7	33.0
Age				
Under 35	42.2	19.0	27.5	12.5
35 to 54	45.5	54.2	53.5	55.4
55 and over	12.2	26.9	19.0	32.2
Marital status				
Married	58.8	75.3	70.0	80.8
Other	41.2	24.7	30.0	19.2
Presence of children				
No children	63.1	56.0	53.1	50.4
0 to 12 years	17.6	19.0	20.8	19.3
13 to 24 years	19.3	25.0	26.1	30.3
Education				
Less than high school	12.7	14.1	10.2	9.8
High school	20.7	19.5	18.6	18.2
Some postsecondary	46.0	42.8	36.3	34.6
Postsecondary	20.6	23.6	35.0	37.5

Source: Statistics Canada, Labour Force Survey, 2006 to 2010.

a university degree than paid employees, regardless of whether they were immigrants. Immigrants who were both self-employed and in paid employment were much more likely to have a university degree, but much less likely to have non-university postsecondary education than their Canadian-born counterparts.

The distribution of self-employment by industry differed for immigrants and the Canadian-born. Although business and professional services was the most frequent industry for both groups, the Canadian-born self-employed were more concentrated in agriculture and other goods-producing industries, while immigrants were more concentrated in trade and transportation industries (Table 2). To some extent, these differences can be linked to the strong geographical concentration of immigrants in major metropolitan areas. Outside Canada's census metropolitan areas,[7] immigrants and non-immigrants had similar industrial distributions, however, in census metropolitan areas, about 55% of self-employed non-immigrants worked in business and professional service industries, compared with 45% of immigrants.

Differences were also noticeable across occupations. As might be expected from the industrial differences, self-employed immigrants were more concentrated in occupations related to management, sales and services, and trade and transportation than their Canadian-born counterparts. These differences became even larger after controls for geographical and educational differences were put in place. For instance, 72% of non-immigrants who had a university degree and resided in metropolitan areas worked in professional occupations, compared with 53% of immigrants. Conversely, about 25% of immigrants and 15% of non-immigrants worked in sales, services, trades and transportation occupations.

Self-employed immigrants and non-immigrants also shared some similarities. About two-thirds of self-employed immigrants and non-immigrants did not have employees. In terms of business structure, more than one-half of the self-employed were not incorporated, although that share was slightly higher among the Canadian-born. Self-employed immigrants and non-immigrants also worked a similar number of hours.

Reasons for entering self-employment

Do immigrants and the Canadian-born enter self-employment for different reasons? Are immigrants more likely to enter self-employment due to difficulties in the paid labour market? The 2000 Survey of Self-Employment can shed some light on these issues: in this survey, respondents were asked directly whether they became self-employed because they could not find suitable paid employment. Respondents also reported on their previous labour market activities—

Table 2 Selected attributes of self-employment by immigration status

	Canadian-born	Immigrants
	%	
Incorporated		
Yes	39.5	42.9
No	60.5	57.1
With employees		
Yes	32.7	32.9
No	67.3	67.1
Usual hours		
Less than 40 hours	37.8	34.7
40 to 56 hours	44.6	48.5
More than 56 hours	17.7	16.9
Industries		
Agriculture	9.3	3.0
Other goods-producing industries	20.1	16.8
Trade and transportation	14.8	22.5
Business and professional services	44.4	43.5
Other services	11.3	14.2
Occupation		
Management	18.0	23.6
Professionals	36.0	34.6
Sales and service	15.4	17.5
Trades and transportation	16.4	18.7
Other	14.2	5.7

Source: Statistics Canada, Labour Force Survey, 2006 to 2010.

making it possible to identify whether respondents entered self-employment after leaving another job, or following a stretch of unemployment.

In 2000, the majority of immigrants and non-immigrants who were self-employed had not entered self-employment because of labour market difficulties. However, immigrants (33%) were more likely than non-immigrants (20%) to report that they entered self-employment due to a lack of job opportunities in the paid labour market. Among immigrants, those who had been in Canada for 10 years or less were more likely (40%) than more established immigrants (31%) to report that they became self-employed because of labour market difficulties.

Previous labour market activities did not differ greatly between those who entered self-employment voluntarily and those who reported a lack of paid jobs (Chart C). Prior to becoming self-employed, more than one-half of the self-employed (at least 55% for each subgroup) were paid employees, and about one-third reported that they were both self-employed and paid employees—suggesting that some might have become self-employed by focusing on a business they already had, or by using another self-employment experience as a stepping stone. Very few (about 2% to 4%) had never worked prior to self-employment. Similar results were obtained for both immigrants and non-immigrants, except immigrants were more likely to report that they became self-employed immediately after ending a previous self-employed job. The preceding results were based on data collected in 2000 when the economy was expanding and the labour market was relatively tight—they may differ under other economic conditions.

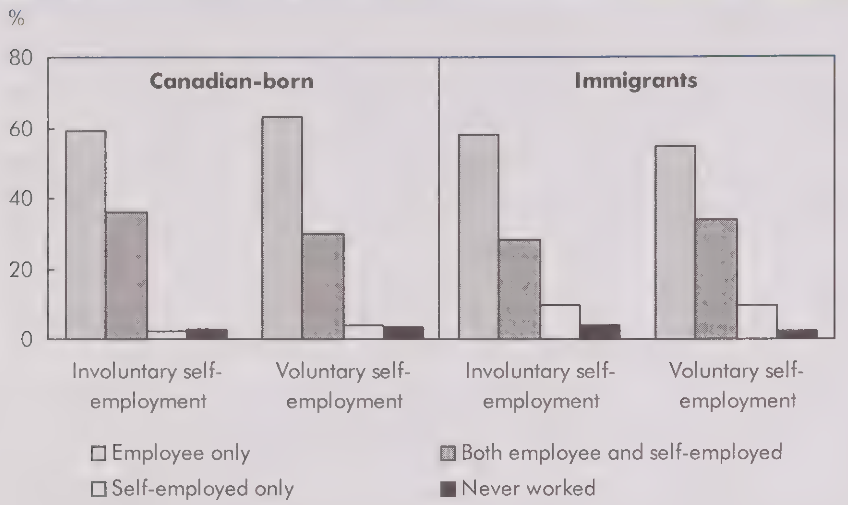
Even though most of the self-employed previously worked as paid employees, the involuntarily self-employed were more likely than the voluntarily self-employed to have lost a paid job prior to entering self-employment (Chart D). These differences were even larger among non-immigrants. Among immigrants, 39% of the involuntarily self-employed had lost their previous job, compared with only 16% of the voluntarily self-employed. The corresponding numbers were 56% and 23% for non-immigrants.

Among the voluntarily self-employed, immigrants and non-immigrants entered self-employment for different reasons. The 2000 Survey of Self-Employment asked the voluntarily self-employed to report why they became self-employed instead of working for an employer. The reasons identified can be grouped into four broad categories:

- entrepreneurial values, including independence, freedom, own boss; control, responsibility, decision making; challenge, creativity, success, satisfaction; and more money
- flexible work arrangements, including flexible hours; balance of work and family; and work from home
- pre-existing opportunities, including "had to be self-employed" because of the nature of the job; joined or took over family business; and other opportunities
- other reasons, including lower taxes, deductions; less stress; and other unspecified reasons (Delage 2002).

Immigrants who entered self-employment voluntarily were more likely to be motivated by entrepreneurial values (71%) than their Canadian-born peers (59%) (Chart E). In contrast, immigrants were less likely than non-immigrants to report that they had become self-

Chart C Previous labour market activites of involuntarily and voluntarily self-employed workers



Note: The difference in the distribution of previous labour market activities of involuntarily and voluntarily self-employed workers was statistically significant among the Canadian-born at $p<0.01$, but not significant among immigrants at $p=0.05$.
Source: Statistics Canada, Survey of Self-Employment, 2000.

to report "independence, freedom, own boss," "control, responsibility, decision making" and "challenge, creativity, success, satisfaction" as self-employment advantages. They were also less likely than the involuntary group to report "flexible hours," "lower taxes/deductions" and "less stress" as advantages.

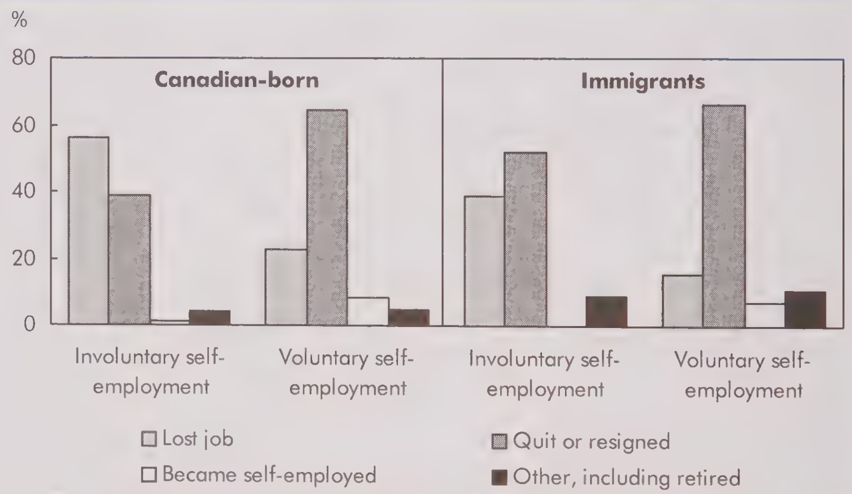
In general, the differences between the voluntary and involuntary groups were similar for the immigrant and non-immigrant populations. Involuntarily self-employed immigrants, however, were more likely than the Canadian-born to report flexibility as an advantage, while non-immigrants were more likely to report that they appreciated working from home.

Among the involuntarily self-employed, at least 40% of immigrants and non-immigrants employed because of flexible work arrangements (10% versus 16% for non-immigrants). Finally, almost one-fifth of non-immigrants entered self-employment because of pre-existing opportunities, whereas 11% of immigrants did so.

Advantages and disadvantages of self-employment

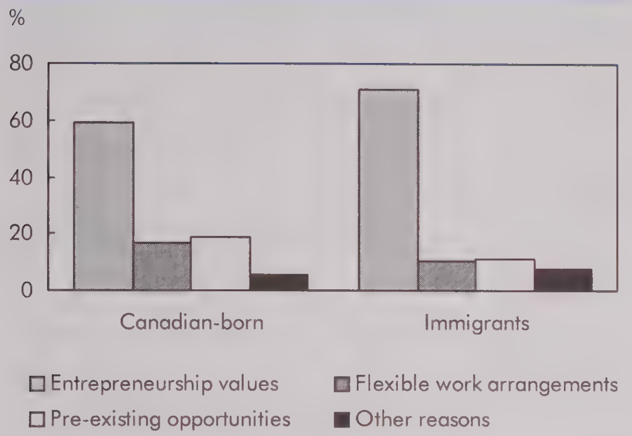
The Survey of Self-Employment also asked respondents to report what they believed were the advantages and disadvantages of being self-employed. As might be expected, those who became self-employed on a voluntary basis differed from the 'involuntary' self-employed group (Table 3). Those who voluntarily became self-employed were more likely

Chart D How previous paid employment ended



Note: Included only those whose work for employer ended when they became self-employed. The difference in the distribution of how previous paid employment ended between involuntarily and voluntarily self-employed workers was statistically significant among the Canadian-born and among immigrants at $p<0.001$.
Source: Statistics Canada, Survey of Self-Employment, 2000.

Chart E Main reasons for entering self-employment among the voluntarily self-employed



Note: Includes respondents who did not become self-employed for lack of suitable paid employment. The difference in the distribution of main reasons for entering self-employment between immigrants and the Canadian-born was statistically significant at $p<0.001$.
Source: Statistics Canada, Survey of Self-Employment, 2000.

Interestingly, the involuntarily self-employed Canadian-born were more likely than immigrants to mention "tax burden" (8% versus 3%) and "tasks related to running a business" (12% versus 6%) as disadvantages to being self-employed, while immigrants expressed more concerns about "lack of benefits" than the Canadian-born (31% versus 19%).

Preference for paid employment

In the 2000 Survey of Self-Employment, respondents were asked the following question: "If instead of self-employment, you could get a paid-job, at the going wage or salary rate for someone with your experience and education, would you accept it?" Overall, 29% of survey respondents answered "yes" to this question. Immigrants (35%) and, in particular, recent immigrants (41%) were more likely to prefer paid employment.

The difference between responses for immigrants and non-immigrants was mostly attributable to the fact that more immigrants entered self-employment involuntarily than the Canadian-born. After controls were put in place for differences in the voluntary nature of self-employment, it was found that the proportion of

reported that one disadvantage of being self-employed was the "uncertainty, insecurity, risk, lack of stability" that came with the job (Table 4). The "lack of benefits" and "fluctuations of income and cash flow problems" were also reported by a larger portion of the involuntarily self-employed, although the latter difference was significant only among the Canadian-born.

"Uncertainty, insecurity, risk and lack of stability" were also reported as issues by about 30% of those who were self-employed on a voluntary basis. However, the voluntarily self-employed—especially immigrants—were also more likely to report "long hours" as a problem. Less than 10% mentioned "tax burden," "interference in family life" and "working alone, isolation."

Table 3 Self-reported advantages of self-employment

	Canadian-born		Immigrants	
	Involuntary self-employment	Voluntary self-employment	Involuntary self-employment	Voluntary self-employment
What do you like about being self-employed?	% answering yes			
Flexible hours	42	33*	53	32*
Family and work–life balance	15	13	18	12
Work from home	18	11*	12	9
Independence, freedom, own boss	57	63*	54	64*
Control, responsibility, decision-making	23	29*	24	41*
Challenge, creativity, success, satisfaction	22	27*	26	32
More money, unlimited income	12	13	11	16
Lower taxes/deductions	9	4*	6	1*
Less stress	7	4*	8	3*

* significantly different between involuntarily and voluntarily self-employed workers at $p<0.05$
Source: Statistics Canada, Survey of Self-Employment, 2000.

Table 4 Self-reported disadvantages of self-employment

	Canadian-born		Immigrants	
	Involuntary self-employment	Voluntary self-employment	Involuntary self-employment	Voluntary self-employment
What do you dislike about being self-employed?	% answering yes			
Uncertainty, insecurity, risk, lack of stability	43	30*	48	29*
Income fluctuations, cash-flow problems	29	21*	26	23
Difficulties obtaining financing, with banks	11	7*	11	6*
Tax burden	8	9	3	7*
Low income	10	7	12	6*
Lack of benefits	19	15*	31	15*
Too much responsibility	7	7	9	12
Long hours, no time off	20	26*	19	31*
Interference in family life	4	5	4	7
Working alone, isolation	5	4	5	6
Tasks related to running a business	12	9	6	9
Stress	10	15*	14	15

* significantly different between involuntarily and voluntarily self-employed workers at $p<0.05$
Source: Statistics Canada, Survey of Self-Employment, 2000.

people answering "yes" to the above question was the same for immigrants and non-immigrants.

In order to determine which factors were associated with the probability of preferring paid employment, two logistic regressions were estimated for immigrants and non-immigrants.[8] The models include demographic variables, self-reported reasons for entering self-employment, self-employment advantages and disadvantages reported by survey respondents, and other self-employment characteristics.[9] Table 5 reports the predicted probabilities of preferring paid employment across several factors, based on the logistic regression estimates.[10]

The factors associated with the probability of preferring paid employment were similar for immigrants and non-immigrants. In both cases, the preference for paid employment was strongly related to the reasons for entering self-employment. More specifically, those who entered self-employment due to a lack of suitable paid employment had a much higher tendency to report that they would leave self-employment if given the opportunity. Using immigrants as an example, close to one-half (49%) of the involuntarily self-employed expressed a desire to leave self-employment, compared with 27% of those who entered self-employment on a voluntary basis. On the other hand, these results also suggest that about one-half of involuntarily self-employed immigrants expressed no preference for a paid job, and that one-quarter of voluntarily self-employed immigrants expressed a willingness to leave self-employment for a paid job. Similar results were found for the Canadian-born.

Those who valued the entrepreneurial aspects of self-employment were much less likely to state a preference for paid employment, especially among immigrants. Indeed, just one-third of self-employed immigrants who indicated entrepreneurial values in the survey reported that they would leave self-employment if they were offered a similar paid job, compared with 55% for other self-employed immigrants. The corresponding figures were 26% and 35% for the Canadian-born.

Similarly, individuals who noted that self-employment had the advantage of flexible hours were less likely to say that they would prefer a paid job. In contrast, instability was related to a higher preference for paid employment. The effects of these two factors tended to be stronger for immigrants than the Canadian-born.

For the Canadian-born, several other variables were also significantly associated with a higher preference for paid employment: dislike of self-employment due to low income or lack of benefits, unincorporated status, and having experienced financial difficulties. While those who reported that they disliked self-employment for the long working hours had a higher preference for paid employment, individuals who usually worked over 56 hours per week (i.e., at least

Table 5 Predicted percentage reporting possible exit from self-employment

	Canadian-born	Immigrants
	%	
Education		
With university degree	29*	34
Without university degree (ref.)	23	35
Geographic distribution		
Three largest census metropolitan areas	28	38
Other locations (ref.)	28	29
Reasons for entering self-employment		
Lack of suitable employment	45*	49*
Other reasons (ref.)	24	27
Like self-employment for entrepreneurship values		
Yes	26*	30*
No (ref.)	35	55
Like self-employment for flexiblity		
Yes	26*	30*
No (ref.)	31	40
Dislike self-employment for instability		
Yes	31*	44*
No (ref.)	25	26
Dislike self-employment for long working time		
Yes	31*	36
No (ref.)	27	34
Dislike self-employment for low income or lack of benefits		
Yes	33*	38
No (ref.)	26	33
Tenure (self-employment)		
4 years or less (ref.)	29	38
Over 4 years	28	32
Incorporated		
Yes	22*	30
No (ref.)	31	38
With employees		
Yes	27	32
No (ref.)	29	36
Multiple job holders		
Single job	28	34
Multiple job holders (ref.)	24	40
Weekly working hours		
Less than 40 hours	31*	35
40 to 56 hours	28	35
More than 56 hours (ref.)	24	34
Experienced financial difficulties		
Yes	35*	38
No (ref.)	23	32

* the difference from the reference group (ref.) is statistically significant at $p<0.05$

Note: The values in this table are estimated based on a logistic regression model for immigrants and the Canadian-born respectively. The model includes independent variables presented in the table, as well as sex, age, marital status, and age of children.

Source: Statistics Canada, Survey of Self-Employment, 2000.

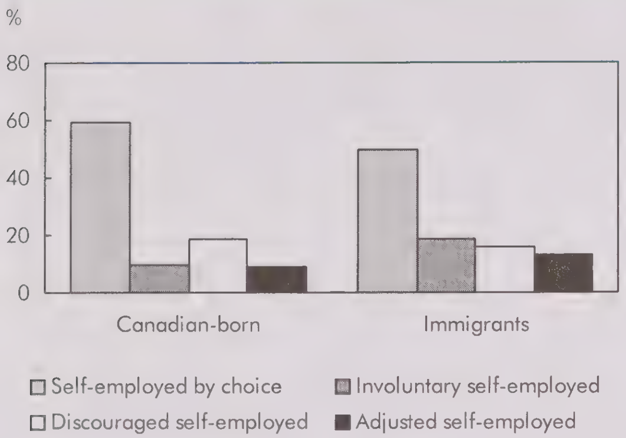
8 hours per day for 7 days or 11 hours per day for 5 days) had a lower preference for paid employment than those who usually worked less than 40 hours per week. There are two possible explanations for these seemingly contradictory results. First, disliking long working hours, which was reported not just by those who worked long hours, may reflect a preference for a regular work schedule often associated with paid employment. Indeed, even among those who usually worked less than 40 hours per week, about 15% reported disliking long working hours. In comparison, the majority (57%) of those who worked over 56 hours per week did not mind long working hours. Second, for some self-employed workers, working less than regular hours may be the result of weak demand for their business, thereby providing insufficient income.

Self-employed categories

As suggested in Delage (2002), the voluntary or involuntary nature of self-employment activities can be combined with information on whether survey respondents would leave self-employment for a suitable paid job to generate four categories of self-employed workers:

- "self-employed by choice" (voluntarily self-employed, would not accept a suitable paid job)
- "involuntary self-employed" (involuntarily self-employed, would accept a suitable paid job)
- "discouraged self-employed" (voluntarily self-employed, would accept a suitable paid job)
- "adjusted self-employed" (involuntarily self-employed, would not accept a suitable paid job).

Chart F Four types of self-employment



Note: The difference in the distribution between immigrants and the Canadian-born is statistically significant at $p<0.001$.
Source: Statistics Canada, Survey of Self-Employment, 2000.

Immigrants were less likely to be self-employed by choice than the Canadian-born (Chart F). Just under one-half of self-employed immigrants were in this category, compared with about 60% of the Canadian-born. Among immigrants, the other categories had similar shares: 18% were self-employed by necessity, 16% were in the discouraged category, and 13% were adjusted. Among the Canadian-born, close to one-fifth were in the discouraged category and about 1 in 10 were in each of the remaining two categories ("involuntary" and "adjusted").

However, the distributional differences between immigrants and non-immigrants across these four categories were due to the fact that more immigrants generally entered self-employment because of a lack of paid employment opportunities. As shown in the previous section, once entry status is taken into account, both immigrants and the Canadian-born are equally likely to report that they would pick a suitable paid job if given the opportunity. Hence, among those who are self-employed on a voluntary basis, a similar portion of immigrants and non-immigrants fell in the discouraged category. Also, similar shares of involuntarily self-employed immigrants and the Canadian-born would not prefer a similar paid job.

Summary

Self-employment is an important source of labour market opportunities for immigrants. By the end of the 2000s, about 19% of immigrant workers were self-employed, compared with 15% of their Canadian-born counterparts. Recent immigrants (those who had been in Canada for 10 years or less) were less likely to be self-employed than more established immigrants but had similar rates of self-employment to the Canadian-born after controls for age differences were put in place.

The various motivations for entering self-employment tend to group around two poles: those associated with the entrepreneurial opportunities of self-employment and those related to a lack of opportunity in paid jobs. Immigrants—especially recent immigrants—were more likely than the Canadian-born to report that they had entered self-employment because of a lack of suitable paid jobs. The majority of self-employed immigrants (67%) and non-immigrants (80%) were nonetheless attracted to various aspects of self-employment rather than pushed by labour market difficulties. Among these voluntarily self-employed workers, immigrants were more likely than non-immigrants to be motivated for reasons related to entrepreneurial values, including independence, freedom, being one's own boss; control, responsibility, decision making; and challenge, creativity, success and satisfaction.

The majority of both immigrant and Canadian-born self-employed workers would prefer to stay in self-employment even if a paid job at the market wage or salary rate were available for them. The share was lower for immigrants (65%) than the Canadian-born (73%). This difference was mostly attributable to the fact that more immigrants entered self-employment involuntarily than the Canadian-born. Within the immigrant population, voluntary self-employment, entrepreneurial values, flexible work time and fewer concerns about instability were all associated with a lower preference for paid employment. These factors were also associated with a lower preference for paid employment among the Canadian-born, although the relationships were not all significant.

Perspectives

Notes

1. See Bögenhold and Fachinger (2010) for a full discussion on the heterogeneity of self-employment.
2. The Labour Force Survey began collecting information on immigration status in 2006.
3. Despite the conceptual differences, the two data sources showed similar trends for all workers (i.e., not by immigrant status) for the period from 1981 to 2006 (see LaRochelle-Côté 2010).
4. Based on the 2006 to 2010 Labour Force Survey, the average age for employed immigrants was 43.7 years and 39.5 years for Canadian-born workers. In a simple regression model controlling for age and age squared, the difference in self-employment rates was reduced to 1.6 percentage points (significant at $p<0.001$) from an unadjusted difference of 3.9 percentage points.
5. Based on data from the pooled 2006 to 2010 Labour Force Survey, the average age was 46.6 years for established immigrant workers and 36.8 for recent immigrant workers. In a regression model controlling for age and age squared, the difference in self-employment rates between the two groups was reduced to 1.7 percentage points (significant at $p<0.001$) from an unadjusted difference of 7.3 percentage points.
6. Other studies show that the self-employment rate among immigrants increases with length of residence in Canada, with most of the increase occurring in the first 10 to 15 years after immigration (Hou et al. forthcoming and Schuetze 2010).
7. A census metropolitan area consists of one or more adjacent municipalities situated around a major urban core. It must have a total population of at least 100,000, of which 50,000 or more live in the urban core. There were 33 census metropolitan areas in the 2006 Census.
8. Because of the cross-sectional nature of the survey data, it was not possible to determine the causal relationship between the self-reported preference for paid employment and perceptions of self-employment advantages/disadvantages. Therefore the results should be interpreted as correlations at best.
9. To reduce the number of parameters to be estimated and possible collinearity among variables, the main items of self-reported advantages and disadvantages (Table 3 and Table 4) are combined into five factors: (1) Like self-employment for entrepreneurship values, including independence, freedom, own boss; control, responsibility, decision making; and challenge, creativity, success, satisfaction; (2) Like self-employment for flexibility, including flexible hours, balance of work and family; and work from home; (3) Dislike self-employment for instability, including uncertainty, insecurity, risk, lack of stability, and fluctuation of income cash-flow problems; (4) Dislike self-employment for long working time, including long hours, no time off, and interference in family life; (5) Dislike self-employment for low income, lack of benefits or tax burden.
10. These predicted probabilities are estimated by holding other variables at their respective means. For example, when all other variables are held at their means for the Canadian-born sample as a whole, the probability of preferring paid employment for Canadian-born self-employed workers with a university degree is 29%.

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The income of immigrants who pursue postsecondary education in Canada

Anne-Marie Rollin

Immigrants admitted to Canada since the start of the 21st century are more educated on arrival than immigrants in earlier cohorts. They are also more educated than the Canadian-born. In the 2006 Census, 51% of immigrants age 25 to 64 who had been in Canada for five years or less had a university degree, compared to 28% of immigrants who arrived earlier and 20% of the Canadian-born (Statistics Canada 2008).

And yet, among university graduates age 25 to 54, the enrolment rate in postsecondary education is higher among recent immigrants than the Canadian-born (14% versus 6% in 2007) (Gilmore and Le Petit 2008). Moreover, immigrants who pursue postsecondary education (PSE) use the Canada Student Loans Program more often than the Canadian-born (Kapsalis 2006).

What motivates immigrants to invest time and money, and sometimes even to go into debt, to pursue PSE in Canada? While the motives differ from one individual to another, they are often not unrelated to problems associated with recent immigrants' integration into the labour market: partial or no recognition of experience and credentials acquired abroad, lack of local experience, language barrier, weak social networks and differences in the quality of education depending on country of origin (Statistics Canada 2005, Houle and Yssaad 2010, Sweetman 2004, and Anisef et al. 2010).

Despite the increase in their education level, a deterioration in recent immigrants' labour market outcomes has been observed in recent decades.[1] However, recent studies have indicated better outcomes for immigrants who pursue PSE in Canada. Immigrants who arrived more than five years ago and obtained their highest postsecondary degree in Canada have an employment rate comparable to the Canadian-born (Gilmore and Le Petit 2008). Moreover, labour market participation is higher for immigrants who completed their postsecondary education in Canada rather than abroad (Mata 2008). Finally, a recent study compared the employment rate of immigrants six months after their arrival in Canada and then after four years. One finding of this study was that among those who already had a university degree on arrival, the group that pursued PSE in Canada saw its employment rate rise more rapidly than the group that did not (Anisef et al. 2010).[2] Up to now, no long-term longitudinal study has been conducted on how the employment income of immigrants pursuing PSE in Canada evolves over time.

The author wishes to thank René Morissette for his assistance, especially in developing the regression models.

This study uses Statistics Canada's Longitudinal Administrative Databank (LAD) (see *Data sources and definitions*) to compare the evolution, over an eight-year period, of the employment income of immigrants with and without PSE in Canada. The sample consists of immigrants who arrived in 1998 and 1999 when they were age 25 to 44. Immigrants who undertook no PSE in the eight years following their arrival are compared to those who began their PSE in the second or third year after their arrival.

First, the extent to which immigrants who pursue PSE in Canada experience different employment income trajectories compared to immigrants who do not is determined. It is then determined whether this difference remains after controlling for a set of individual characteristics observed at the time of settlement that are likely to influence how employment income evolves. This set of characteristics includes education level on arrival, prior knowledge of an official language, immigrant class and country of origin.

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Men are more likely than women to belong to the skilled-worker category

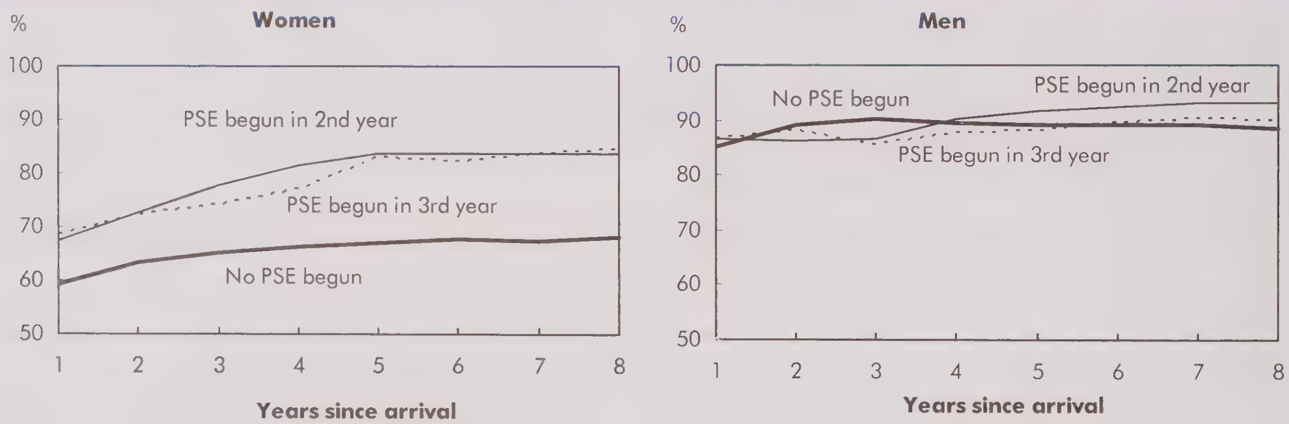
Of the male and female immigrants who arrived in 1998 and 1999 included in this study, 52% had a university degree at the time of immigration and 72% knew an official language when they arrived (Table 1). Immigrants from the four leading regions—Eastern Asia, Southern Asia, Eastern and Southern Europe and Southeast Asia—accounted for more than two-thirds of the total.

The main difference between men and women was the much larger proportion of principal applicants for immigration in the skilled-worker category for men (57%) than women (19%), who mainly belong to the skilled-worker spouse and dependent category or the family reunification category. Since only the principal applicant in the skilled-worker category is evaluated according to a point system, labour market characteristics were more favourable for male than female immigrants. Men who arrived in 1998 and 1999 tended to be slightly older than their female counterparts and have more years of work experience. They were also more educated and proportionally more likely to know English or French.

Immigrants who begin PSE are different from those who do not pursue PSE

There are differences between the characteristics of immigrants who begin PSE during the second or third year following their arrival and those who do not pursue PSE in Canada. Immigrants who begin PSE tend to be younger and more educated when they arrive, and a larger proportion of them know an official language. For example, 70% of male immigrants who undertook PSE had a university degree when they arrived, while 50% of men who did not undertake PSE had such a degree at the time of immigration. Also, immigrants who pursue PSE are more likely to belong to the skilled-worker category, whether as the principal applicant or as a spouse or dependent of the principal applicant. The distribution of newcomers by country of origin is also different for the sub-groups who do and do not undertake PSE in Canada. For example, immigrants of both sexes who begin PSE are more likely to come from Eastern Asia, and female immigrants who begin PSE are more likely to come from Eastern or Southern Europe.

Chart A Proportion of immigrants with employment income



Note: PSE = postsecondary education
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

Table 1 Characteristics of immigrants who came to Canada in 1998 and 1999, age 25 to 44, with at least 10 years of education on arrival

	Women				Men			
	All	No PSE begun	PSE begun in 2nd year	PSE begun in 3rd year	All	No PSE begun	PSE begun in 2nd year	PSE begun in 3rd year
Total	**56,195**	**33,165**	**4,945**	**3,185**	**51,985**	**31,975**	**4,365**	**2,455**
					%			
Age on arrival								
25 to 29	30.0	27.6	31.3	27.2	24.7	23.2	26.4	25.2
30 to 34	31.6	29.7	32.6	39.4	30.3	28.0	34.8	33.7
35 to 39	24.5	26.1	24.1	23.8	26.0	26.6	26.4	25.1
40 to 44	13.9	16.6	12.0	9.6	18.9	22.2	12.3	16.0
Education level on arrival								
10 to 12 years of schooling	19.7	26.4	9.3	13.9	13.5	18.3	5.6	7.0
13 or more years of schooling, without diploma/degree/ certificate	9.3	9.4	9.2	6.9	8.1	8.6	8.1	6.0
Qualification certificate	10.4	11.1	8.8	10.0	9.5	11.4	6.7	6.6
Non-university diploma	13.9	13.7	16.0	14.2	11.0	11.4	10.0	8.7
Bachelor's	38.2	32.0	47.4	45.3	42.7	37.0	54.9	52.0
Master's	7.6	6.3	8.1	8.9	12.2	10.3	13.1	15.3
Doctorate	1.0	1.1	1.3	0.8	3.1	3.0	1.6	4.5
Knowledge of an official language on arrival								
Yes	67.1	63.9	72.3	64.7	77.7	75.0	80.9	82.3
No	32.9	36.1	27.7	35.3	22.3	25.0	19.1	17.7
Immigrant class								
Skilled worker, principal applicant	18.9	14.7	25.2	18.1	56.6	50.7	67.2	62.4
Skilled worker, spouse and dependants	37.5	35.2	42.2	44.8	8.3	7.1	10.9	9.4
Family reunification	21.9	24.7	15.9	17.1	16.9	20.0	10.6	13.3
Businessperson	4.8	6.5	2.1	3.6	3.8	5.4	1.6	1.9
Refugee	4.9	5.4	4.6	6.5	6.3	7.1	5.1	6.5
Other	12.0	13.5	10.0	9.9	8.0	9.6	4.6	6.5
Country of origin[1]								
Eastern Asia	28.9	25.5	33.5	30.1	24.9	22.4	27.8	27.7
Southern Asia	13.2	16.5	6.7	9.4	16.9	18.3	15.0	13.2
Southeast Asia	9.4	10.0	8.5	8.1	6.3	6.8	4.6	6.4
West Central Asia and the Middle East	11.4	11.8	12.3	12.8	10.9	10.6	13.3	12.0
Eastern and Southern Europe	15.1	13.2	19.2	22.2	15.4	16.1	14.8	15.3
Western and Northern Europe	6.3	7.0	3.9	5.0	9.1	10.5	7.1	8.4
Africa	8.6	7.7	8.0	7.0	8.6	7.2	9.0	9.4
Latin America	5.5	5.4	6.6	3.8	5.6	5.3	6.9	5.4
North America	1.7	2.1	0.9	1.3	1.5	1.9	0.9	1.2
Oceania and other	0.6	0.6	0.4	0.4	0.9	1.0	0.5	1.1

1. The classification of countries of origin is the same as the classification of places of birth used in the 2006 Census (Statistics Canada 2010, Appendix J). However, some regions in the census classification were combined. Africa includes Western, Eastern, Northern, Central and Southern Africa. Latin America includes Central America, South America, the Caribbean and Bermuda. The 'other' category contains a limited number of immigrants for whom the region of origin is unknown.

Notes: For women, 16% began PSE in the 1st year and 11% began between the 4th and 8th years. For men, the corresponding proportions are 17% and 8%.
PSE = postsecondary education

Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

Data sources and definitions

Statistics Canada's **Longitudinal Administrative Databank** (LAD) is a longitudinal sample representing approximately 20% of Canadian tax filers (T1 income tax returns). LAD also contains variables from the **Longitudinal Immigration Database** (IMDB). It is therefore possible to identify immigrants and know some of their characteristics at the time they obtained their landed immigrant status, in particular their education level, their knowledge of the official languages, their immigrant class and their country of origin.

The target population consists of immigrants age 25 to 44 who arrived in 1998 and 1999 and had 10 or more years of education at that time.[3] Since information on postsecondary education is available in LAD only for individuals who complete their tax returns, the sample that was used contains only immigrants who completed their annual tax return during the eight years following their arrival. Therefore, immigrants who left Canada are not included.

Deductions for the amount relating to full-time and part-time education have been available in LAD since the 1983 and 1999 taxation years, respectively. Canadian filers who attend a recognized postsecondary educational institution and are enrolled in an eligible program can benefit by claiming this deduction, since it constitutes a non-refundable tax credit that can be claimed in the current year by the filer or a family member or can be carried forward to be claimed in a subsequent year.

In this study, **immigrants who did not begin any PSE** did not claim an education deduction from the first to the eighth year after their arrival. **Immigrants who began PSE during the second yea**r claimed, for the first time, a deduction for an amount relating to full-time or part-time education in the second year after their arrival. Finally, **immigrants who began PSE in the third year** claimed a deduction for the first time three years after their arrival.

As noted by Ashenfelter (1978), adults who take training sometimes experience a decrease in income in the year preceding the start of training. Therefore an analysis that considered only employment income in the year preceding the start of PSE might be biased. To guard against this possibility, this study focuses not only on immigrants who begin PSE during the second year, but also on those who do so in the third year following their arrival. Focusing on these two groups of immigrants who begin PSE also helps to ensure that our findings are robust. Thus, to conclude that the change over time in employment income and the employment rate is different for immigrants who begin PSE in Canada compared to immigrants who do not, this study's results apply to both those who begin their education in the second year and those who do so in the third year.[4] Immigrants who began PSE in the first year following their arrival are not examined since it is essential to know employment income before the start of PSE.

LAD is beneficial for this analysis because of the large size of its longitudinal sample, its long period, the detailed income information that it contains and the richness of the characteristics regarding immigrants at the time of their settlement. However, this databank has some limitations, often inherent in the use of administrative data. Some immigrants who attend a postsecondary institution in the years after their arrival may not know about the education deduction. There is therefore a risk that some immigrants will be wrongly identified as non-students. Moreover, certain variables that could enhance this study are not available in LAD. The field of study of individuals pursuing PSE and whether they obtain a degree are unknown. For filers who report employment income, the number of hours worked during the year is unknown. Whether filers who report no employment income actively looked for work is unknown.

In this study, **employment income** is equal to the sum of income from employment entered on T4 slips, other income obtained from paid employment that does not appear on T4 slips, like tips and net income from self-employment (this net income can be negative). Newcomers **with employment income** in a given year are individuals who reported positive employment income that year.

Employment income is used to measure different facets of immigrants' economic integration. The extent to which immigrants have employment income at different times, which indicates that they have paid employment or are self-employed, is determined. The rate of growth of employment income between the first and eighth years is also studied. Since two individuals with the same growth rate can have a very different nominal increase in employment income, the dollar increase in employment income between the first and eighth years is also examined.

All amounts are expressed in 2007 constant dollars.

Immigrants who undertake PSE in Canada are more likely to have employment income eight years after their arrival

The proportion of individuals with employment income is an indicator of their presence in the labour market. This proportion increases during immigrants' first years in Canada and then stabilizes as the newcomers integrate into the labour market.

After eight years in Canada, male and female immigrants who began PSE during the second or third year are more likely to have employment income than their counterparts who did not (Chart A). However, the gap between immigrants with and without PSE undertaken in Canada is much greater for women (more than 15 percentage points) than men (from 1 to 5 percentage points) after eight years.

Effects of non-observable variables

In this study, characteristics observable at the time of immigration were taken into account by means of multivariate analyses. However, it is not possible to take non-observable characteristics generally valued on the labour market into account, such as motivation, talent, problem-solving ability, ability to synthesize and communication skills.[9] Immigrants who pursue postsecondary education (PSE) in Canada likely have more highly rewarded non-observable characteristics than immigrants who do not pursue PSE, which could explain in part why their employment income trajectories differed over time.[10]

Also, it is possible that immigrants who undertake PSE in Canada are more inclined to be in the labour market. For example, it may be that women who pursue PSE in Canada are more likely to have come to Canada with career plans in mind, while women who do not are more likely to want to play a more traditional family role, either staying at home or holding an unspecialized job with little prospect of income growth.

To ensure that the results of this study are robust in relation to this specific phenomenon, an additional control variable was included in our models, namely the immigrant's intended occupation. This variable serves to distinguish between those who plan to work and others, in addition to providing the occupation code under the 1992 National Occupational Classification (NOC) for workers. The inclusion of this variable produces results similar to those in appearing tables 2, 3 and 4 and do not alter the findings of this study.

There was a gap of 10 percentage points among female immigrants starting in the first year, which may indicate that women who do not begin PSE generally tend to be less present in the labour market than women who do begin PSE. This situation might be due in part to the effects of non-observable characteristics (see *Effects of non-observable variables*). This said, the increase in the proportion of women with employment income between the first and eighth years is much greater for those who undertook PSE (16 percentage points) than those who did not do so (9 percentage points).

The proportion of men with positive employment income in the first year was approximately 85%, for both those with and those without PSE begun in Canada. After the third year, an upward trend appeared for groups that began PSE, while the group that did not begin PSE exhibited a downward trend. After eight years, the proportion of PSE-pursuing men with employment income is similar to or slightly higher than the corresponding proportion of those who did not pursue PSE.

Immigrant women who pursue PSE are more likely to transition from not having employment income to having employment income

The probabilities of transitioning from having no employment income in the first year after arrival to having such earnings in the eighth year, and vice versa, were estimated using logistic regressions (see *Regression models*). This methodology serves to determine whether immigrants who pursue PSE in Canada have different probabilities of transitioning compared to those who do not, and, if so, to determine whether the discrepancy in probabilities is due to differences in immigrants' characteristics at the time of their settlement.

Table 2 shows the probability of having employment income in the eighth year after arrival for immigrants without employment income in the first year. Even with controls in place for individual characteristics, this probability is significantly greater for women who begin PSE (from 69% to 78%) than those who do not (49%). In contrast, the probability gap for men is significant only for those who begin PSE in the third year.

Table 3 shows the probability of immigrants with employment income in the first year no longer having such income in the eighth year.[5] For women who begin PSE in the second or third year, the probability of experiencing such a transition is 10% and 13%, respectively. These percentages are significantly lower than the 19% probability for women with no PSE. For men, there is a significant probability gap between those who began PSE in the second year and those who did not undertake PSE. However, no significant difference is observed between men who began PSE in the third year and those who did not begin PSE.

It can therefore be concluded that a correlation exists only for women between beginning PSE in Canada and an increased presence in the labour market. This increased presence of women in the labour market

Regression models

Regression models were used to evaluate the probability of individuals with no employment income in the first year having such income in the eighth year, and conversely the probability of individuals with employment income in the first year not having such income in the eighth year. The model used is as follows:

$$Prob(\gamma_{i8}) = \alpha + \beta_1 PSE_{i2} + \beta_2 PSE_{i3} + \beta_3 C_i + \varepsilon_i .$$

The dependent variable γ_{i8} a binary variable that takes the value of 1 when individual *i* has employment income in the eighth year and 0 otherwise. The model was estimated separately for individuals with and without employment income in the first year. The term PSE_{i2} represents a binary variable that takes the value of 1 if individual *i* began postsecondary education (PSE) in the second year and 0 otherwise. In turn, the binary variable PSE_{i3} identifies immigrants who began PSE in the third year. Immigrants who did not pursue PSE comprise the reference group. The term C_i consists of individual characteristics on arrival in Canada: age, age squared (to take the decreasing marginal return on years of experience into account), education level, knowledge of an official language, immigrant class and country of origin. Apart from age and age squared, the other characteristics appear as binary variables and represent the different values appearing in Table 1. The probability in tables 2 and 3 correspond to the mean of the probabilities predicted by the model for the whole of the study sample (with or without employment income in the first year).

The descriptive analysis suggests greater income growth for immigrants who pursue PSE. To separate out the effect of PSE pursued in Canada from the effect of immigrants' individual characteristics on arrival in Canada, two linear regression models were specified which were estimated according to the ordinary least squares method:

$$\gamma_{i8} - \gamma_{i1} = \alpha + \beta_1 PSE_{i2} + \beta_2 PSE_{i3} + \beta_3 C_i + \varepsilon_i$$

and

$$log(\gamma_{i8}) - \log(\gamma_{i1}) = \alpha + \beta_1 PSE_{i2} + \beta_2 PSE_{i3} + \beta_3 C_i + \varepsilon_i .$$

In the first model, the dependent variable represents the difference in employment income between the eighth and first years. In the second model, the dependent variable corresponds to the difference between the logarithms for employment income in the eighth and first years. For low growth rates, the logarithmic difference is approximately equal to the growth rate. However, the descriptive analysis revealed that the growth rates for immigrants' employment income are high (Chart B). Therefore, in this study, the logarithmic difference underestimates the growth rate for employment income. The terms PSE_{i2}, PSE_{i3} and C_i are exactly the same as in the logistic regression model.

All the regression models were evaluated separately for men and women. In addition to being evaluated as described above, the models were also evaluated without individual characteristics C_i. When the results are presented, there is a notation as to whether the model is with or without individual characteristics.

may reflect greater employability, a greater degree of labour force participation or a combination of the two. However, the probability of going from a situation without employment income in the first year to a situation with employment income in the eighth year is lower for women than men in all cases. Simi-

Table 2 Probability for individuals with no employment income in the first year of having employment income in the eighth year

	Women		Men	
	Model excluding individual characteristics	Model including individual characteristics	Model excluding individual characteristics	Model including individual characteristics
	%			
No PSE begun (ref.)	48.3	48.5	67.4	68.4
PSE begun in 2nd year	71.0*	68.8*	80.0*	75.5
PSE begun in 3rd year	79.1*	77.5*	90.2*	87.5*

* significant difference in relation to reference group (ref.) at the 0.05 level
Notes: Includes only immigrants with no employment income in the first year.
PSE = postsecondary education
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

larly, the probability of going from a situation with employment income in the first year to a situation without employment income in the eighth year is higher for women than men. This is largely a reflection of the differences in characteristics between male and female immigrants described previously. In particular, since women are much less likely to belong to the skilled-worker category, they are less likely to have positive labour market outcomes.

Both male and female immigrants who pursue PSE experience greater growth in their employment income

This paper's focus will now shift to the increase in immigrants' employment income between the first and eighth years, using only immigrants with employment income at both these times.[6]

Although women who begin PSE have a lower average income in the first year than those who do not begin PSE, by the eighth year the women who began PSE have the higher average income (Chart B). Men who pursue PSE in Canada also start out with a lower average income but after eight years they are close behind men who did not pursue PSE. Consequently, both women and men who pursue PSE see both stronger growth and a larger nominal increase in their employment income. The employment income growth rate for women who do not begin PSE is 61%, compared to more than 125% for women who do. The employment income of men who do not pursue PSE increases by 50%, while that of men who do increases by more than 80%.[7]

Gaps between immigrants with and without PSE in Canada are still present in the majority of cases with controls in place for the effect of individual characteristics at the time of arrival, using linear regression models (see *Regression models*). However, the gaps are reduced by adding these variables to the models (Table 4). The decrease in the gaps is small for employment income growth.[8]

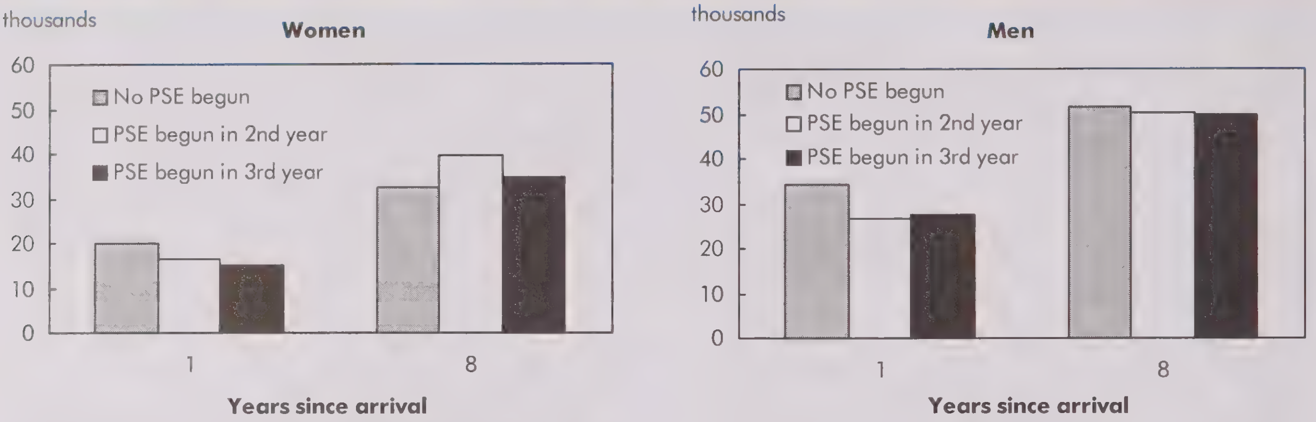
With regard to the nominal increase in employment income, more than three-quarters of the gap observed for women (without controls for individual characteristics) remains when differences in these characteristics among immigrants are taken into account. Immigrant women who begin PSE in the second or third year experience a greater increase in their employment income than those with do not begin PSE, at $8,900 and $5,500, respectively. For men who begin PSE in the second year, 60% of the difference remains when individual characteristics are taken into account, at $3,800. However, for men who begin PSE in the third year, the gap in relation to the reference group with no PSE in Canada is not significant.

Table 3 Probability for individuals with employment income in the first year of not having employment income in the eighth year

	Women		Men	
	Model excluding individual characteristics	Model including individual characteristics	Model excluding individual characteristics	Model including individual characteristics
	%			
No PSE begun (ref.)	18.2	18.6	7.8	8.3
PSE begun in 2nd year	10.1*	10.3*	4.6*	5.2*
PSE begun in 3rd year	12.9*	12.9*	10.2	10.4

* significant difference in relation to reference group (ref.) at the 0.05 level
Notes: Includes only immigrants with employment income in the first year.
PSE = postsecondary education
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

Chart B Average employment income in the first and eighth years



Notes: Includes only individuals with positive employment income in the 1st and 8th years.
PSE = postsecondary education
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

Thus, pursuing PSE in Canada seems to be correlated with stronger growth of employment income for both women and men, as well as with a larger nominal increase in employment income for women.

Are the outcomes different for immigrants who arrived with and without a university degree?

The evolution of employment income in relation to pursuing PSE in Canada does not appear to be different for immigrants who arrived with and

Table 4 Growth and nominal increase in employment income

		Women		Men	
	Dependent variable	Model excluding individual characteristics	Model including individual characteristics	Model excluding individual characteristics	Model including individual characteristics
Group compared to group with no PSE begun		Value of coefficient of interest [and its standard error]			
PSE begun in 2nd year	$\log(Y_8)-\log(Y_1)$	0.56* [0.06]	0.51* [0.06]	0.36* [0.04]	0.32* [0.04]
PSE begun in 3rd year	$\log(Y_8)-\log(Y_1)$	0.46* [0.07]	0.38* [0.07]	0.27* [0.06]	0.23* [0.06]
PSE begun in 2nd year	Y_8-Y_1	10,800* [1,200]	8,900* [1,200]	6,400* [1,700]	3,800* [1,700]
PSE begun in 3rd year	Y_8-Y_1	7,200* [1,500]	5,500* [1,500]	5,000* [2,200]	2,400 [2,200]

* significant difference in relation to reference group (no PSE begun) at the 0.05 level
Notes: Includes only individuals with positive employment income in the 1st and 8th years.
PSE = postsecondary education
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

without a university degree.[11] The four measures of the change in employment income examined are different between immigrant women who begin PSE in Canada and those who do not, these findings applying both to those who arrived with and without a university degree. For men, the results are conclusive only with regard to the growth rate for employment income, as noted previously (Table 5).

The results of the logistic regressions do not indicate that the gaps previously observed between groups with PSE and the reference group without PSE regarding the probabilities of transitioning from having no employment income to having such earnings, and vice versa, are different for immigrants with and without a university degree on arrival.[12] Nor do the results of linear regressions indicate a significant difference in the growth rate and nominal increase in employment income.[13]

Conclusion

This study compared the evolution, over an eight-year period, of the employment income of immigrants who began postsecondary education (PSE) in Canada in the second or third year after their arrival with that of immigrants who did not do so. Four measures were used: the probability of going from a situation with no employment income to one with employment income; the probability of going from a situation with employment income to one with no employment income; the rate of growth of employment income; and the nominal increase in employment income. The analysis was conducted for women and men separately.

According to the four measures, women who began PSE in Canada have better outcomes, even when individual characteristics known at the time of immigration are taken into account. For men, the differences

Table 5 Employment income in the first and eighth years, by education level on arrival

	Women				Men		
	No PSE begun	PSE begun in 2nd year	PSE begun in 3rd year		No PSE begun	PSE begun in 2nd year	PSE begun in 3rd year
Arrived without university degree							
Proportion with employment income				%			
1st year	57.0	66.5	67.2		84.5	83.9	86.3
8th year	66.7	82.9	81.2		88.5	92.0	92.1
				$			
Average employment income[1]							
1st year	15,500	14,200	13,500		26,900	21,400	25,600
8th year	24,600	35,100	29,700		38,200	38,900	49,000
				%			
Growth of average employment income,[1] 1st to 8th year	58.7	147.2	120.0		42.0	81.8	91.4
Arrived with university degree							
Proportion with employment income				%			
1st year	62.7	68.3	69.6		86.1	87.6	86.5
8th year	70.5	84.5	87.4		88.6	93.9	89.0
				$			
Average employment income[1]							
1st year	26,600	18,100	16,300		41,400	28,800	28,100
8th year	43,100	42,700	38,200		64,500	55,000	49,900
				%			
Growth of average employment income,[1] 1st to 8th year	62.0	135.9	134.4		55.8	91.0	77.6

1. Includes only individuals with positive employment income in 1st and 8th years.
Note: PSE = postsecondary education
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2007.

between those who began PSE and those who did not are significant only with respect to the growth rate for employment income. The evolution of employment income related to pursuing PSE in Canada does not differ significantly depending on whether immigrants were with or without a university degree on arrival.

There is therefore an association for both women and men between pursuing PSE in Canada and the growth of immigrants' employment income over an eight-year period. Also, for immigrant women, PSE pursued in Canada is associated with greater labour force participation eight years after their arrival.

Since it is impossible to take the effects of some non-observable variables into account, these results should be interpreted with caution. The gaps that remain between immigrants who undertake PSE in Canada and those who do not (after individual characteristics known at the time of immigration are taken into account) are caused by the combined effects of pursuing PSE in Canada and the non-observable characteristics mentioned previously. However, the relative importance of these two factors is unknown. Future research might shed light on this matter.

The administrative data used do not show whether immigrants who began PSE obtained a postsecondary degree in Canada. What this study establishes is that there are certain links between immigrants attending a postsecondary educational institution in Canada and how their employment income evolves. By attending such an institution, newcomers obtain not only education but also access to guidance and job search services, the opportunity to perfect their knowledge of the official languages, the possibility of expanding and diversifying their social networks and various other advantages. In the future, it would be useful to explore how each of these advantages contributes to improving immigrants' employment prospects. It would also be interesting to determine whether participation in PSE is more beneficial to immigrants than the Canadian-born.[14]

Perspectives

Notes

1. The unemployment rate of very recent immigrants rose from 1981 to 2008, whereas it declined for the Canadian-born (Canadian Labour and Business Centre 2004, and Gilmore 2009). The gap in employment income between very recent immigrants and the Canadian-born has widened since the 1970s, even for bachelor's degree holders (Picot and Sweetman 2005). Moreover, the proportion of very recent immigrants having a university degree but holding a job requiring no more than a high school diploma increased by 5 percentage points from 1991 to 2006 (Galarneau and Morissette 2008).
2. Anisef et al. (2010) use the Longitudinal Survey of Immigrants to Canada and focus on immigrants who arrived during the period from October 2000 to September 2001 and had a university degree when they arrived. They separate their sample into four groups according to the type of postsecondary education (PSE) pursued in the first four years in Canada: no PSE, non-university PSE, university PSE in the same field as in the past, university PSE in another field than in the past. For each of these groups, they measure the employment rate six months after their arrival, then after four years. One of the main findings of the study is that the increase in the employment rate between these two periods is greater for immigrants who pursue university PSE in Canada than immigrants who do not pursue PSE and those who pursue non-university PSE. However, the employment rate after four years remains lower for immigrants who pursued university PSE in Canada than the other two groups.
3. To attend a Canadian postsecondary institution, it is generally necessary to have a high school diploma, which requires approximately 12 years of education. Immigrants with less than 10 years of education on arrival are therefore too unlikely to attend a postsecondary institution to be included in this study.
4. However, those who begin postsecondary education (PSE) in the third year have one less year between the start of their PSE and the point when their employment income is recorded in the eighth year.
5. According to Riddell and Song (2009), postsecondary education increases the probability of re-employment following a job loss.
6. Immigrants with employment income in both the first and eighth years represent 79% of the men and 51% of the women included in the sample. As noted earlier, the definition of employment income used in this study includes net income from self-employment, following the example of Frenette and Morissette (2003). Such income is likely to be more unstable than the earnings of salaried workers. To ensure that the inclusion of this income does not bias the results for growth in total employment income, tables 4 and 5 were redone excluding immigrants who reported such income in either the first or eighth year, or in both years. The results are similar to those appearing in this article.
7. The higher growth rates generally observed for women reflect in part the fact that their average income is much lower in the first year.

8. The dependent variable in the regression models is the logarithmic difference in income between the first and eighth years. This ensures that the results are not influenced by the fact that women's incomes are lower on average than men's.

9. The methods generally used to take the omitted heterogeneity into account cannot be used in the selected regression models. With fixed-effects models, the dependent variable must be observed several times for the same individual. In this study, income is observed in the first and eighth years only, which is insufficient. Random-effects models are useful when the non-observable characteristics are not correlated to the independent variables. This condition does not apply here because the non-observable characteristics are expected to be correlated to pursuing postsecondary education (PSE).

10. See, for example, Bonikowska et al. (2008) for details on the effect of cognitive ability on immigrants' earnings.

11. The findings of this study are also valid for both full-time and part-time postsecondary education (PSE) begun. Education deductions indicate how many months immigrants pursued full-time or part-time PSE in a given year. Beginning full-time PSE in a given year is defined as attending a postsecondary educational institution full-time for a minimum of four months that year. Immigrants who began part-time PSE did not meet this condition (either they studied part time only or they studied full time for less than four months in the first year of their PSE). When this distinction is made, the conclusions of this study are found to be adequate for all questions pertaining to women. Once again, the results for men are conclusive only with respect to the growth rate of employment income.

12. Logistic regressions were carried out using a model similar to the one described in *Regression models*. However, education level on arrival is included as a binary variable to distinguish between immigrants with and without a university degree on arrival. Also, two terms were added for the interaction between this binary variable on education on arrival and the two binary variables on PSE pursuit in Canada. The model was evaluated separately for the two sexes, as well as for individuals with and without employment income in the first year. The standard errors used are robust for heteroscedasticity. When individual characteristics are taken into account, the two interaction terms are not jointly different from zero at the 5% significance level.

13. The linear regression models used were similar to those described in *Regression models*. However, education level on arrival is included as a binary variable to distinguish between immigrants with and without a university degree on arrival. Also, two terms were added for the interaction between this binary variable on education on arrival and the two binary variables on PSE pursuit in Canada. The two models were evaluated separately for the two sexes. When the effect of individual characteristics is taken into account, the two interaction terms are not jointly different from zero at the 5% significance level, with one exception: a slight difference is detected with respect to the nominal increase in employment income for men. This difference comes from men who began PSE in the third year, since no difference is detected for men who began PSE in the second year.

14. While Canadian-born persons who pursue postsecondary education (PSE) can be identified in the Longitudinal Administrative Databank (LAD), their prior education level is unknown.

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The wealth and finances of employed low-income families

May Luong

In 2008, over 4.1 million individuals were living in low-income families.[1] While many people in low income relied on government transfers, 37% of these people were also part of a family in which someone was employed for at least one-half of the year.[2]

Employed low-income families have been the subject of several recent studies.[3] One study found the average income of individuals living in employed low-income families to be less than one-third of the income of individuals in other employed families (Fleury and Fortin 2004). Although fewer individuals in employed low-income families work full year, full time, their average hours worked are on par with other workers at around 2,000 hours (Fleury and Fortin 2006).

Low-paying jobs are often associated with employed low-income families. However, while low pay was found to be a significant risk factor, it was not the most important determinant of low-income status. Instead, the presence of one earner (compared to multiple earners) and other family characteristics were found to be more important than pay (Fleury and Fortin 2006). Fortin calculated that 3.4 million of the employed in 2002 would drop under the low-income line if they experienced a separation or divorce in the family, or if other earners in the family experienced unemployment (Fortin 2007). In addition, certain groups like immigrants were found to be more likely to be part of an employed low-income family (Fortin 2007).

Other studies compared spending in employed low-income families to other groups to assess their living standards. Results indicate that despite their stronger labour force attachment and slightly higher income than those in other low-income families, employed low-income families were more likely to borrow or liquidate assets to make ends meet, and they had more work-related expenses and less access to subsidized housing (Fleury et al. 2005). Nevertheless, individuals in employed low-income families experience health outcomes comparable to the employed non-low-income and score higher than the not-employed low-income on a number of health measures, both in a given year and over the longer term (Fortin 2008).

Although these studies shed light on the current income and consumption of employed low-income families, there remains a research gap regarding their wealth and financial situation. Wealth studies typically treat low-income families as a single group, rather than separating the employed from other low-income families. For example, one study reported that while not all low-income families have low wealth, the vast majority of low-income families have very little financial wealth (Morissette 2002).

Wealth is a key aspect of long-term well-being since some assets can be converted into cash for consumption during periods of economic hardship (Wolff 1998). Other assets may be more difficult to liquidate in a short period of time but often can be used as security for loans. Studying the wealth and financial security of individuals in employed low-income families can provide a more complete picture of their long-term financial well-being and ability to weather short-term difficulties.

Using the 2009 Canadian Financial Capability Survey (CFCS), this study examines the financial situation of individuals living in employed low-income families compared to not-employed low-income families and employed families not in low income. The CFCS provides the unique opportunity to look at respondents' perceptions of their financial situation and their estimates of household assets and debts during a labour market downturn. Since the response rates for the asset and debt questions were relatively low,

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the tabulations were replicated using the 2005 Survey of Financial Security (SFS). The comparison validated the main conclusions of this study but also indicated that the CFCS measures of asset and debt levels should be interpreted with caution (see *Data sources and definitions*).[4]

Although CFCS data were collected and processed at the individual level, the primary groups of interest were defined based on family income and wealth. Thus 'families' is used synonymously with 'individuals in families' for brevity in this article.

Profile of employed low-income families

In 2009, there were over 1.6 million people age 25 to 64 living in employed low-income families,[7] representing 9% of the population in this age group (Table 1). There were just fewer than 1.2 million people living in not-employed low-income families, which represented 7% of the target population. Individuals in employed non-low-income families were in the majority, accounting for 77% of the target population of 14 million. The remaining 8% is made up of those in not-employed non-low-income families and is excluded from subsequent analyses (see *Data sources and definitions*).

The average age of those in employed low-income families is younger than all other groups at 42.3 years. Almost 60% of those in this group are from age 25 to 44. This group also had the largest proportion of women (58%), the largest household size (3.6) and more children (1.4), on average, than all other groups. Almost one-half of employed low-income families are couples with children and 15% are lone parents. Compared to those in low-income families with no one employed, those in employed low-income families are somewhat better-educated with 24% holding a college diploma and 18% holding a university degree (undergraduate and graduate).

Table 1 Profile of individuals age 25 to 64 by employment and income group

	Employed low-income	Not-employed low-income	Employed non-low-income	Not-employed non-low-income
		'000		
Population	**1,632**	**1,187**	**13,999**	**1,434**
		%		
Sample	9	7	77	8
Female	58	57	48*	51*
		years		
Mean age	42.3	47.7*	43.4*	53.2*
		%		
Age distribution				
25 to 34	28	19*	25*	11*
35 to 44	31	18*	28*	9*
45 to 54	26	27*	30*	17*
55 to 64	15	36*	17*	63*
		number		
Household size	3.6	2.6*	3.0*	2.3*
Number of children	1.4	0.7*	1.0*	0.3*
		%		
Family composition				
Unattached individuals	21	45*	16*	34*
Couples without children	17	19*	30*	45*
Couples with children	47	20*	50*	14*
Lone parent	15	17*	4*	6*
Highest education level				
Less than high school diploma	23	35*	7*	18*
High school diploma or equivalent	26	23*	19*	24*
Some college, trade, vocational or technical school, CEGEP, or university	10	9*	10	12*
College, trade, vocational or technical school, CEGEP, certificate or diploma	24	18*	29*	23*
University undergraduate degree	11	9*	23*	15*
University graduate degree	7	F	13*	9*
		$		
Median household income	25,000	15,000*	90,000*	55,000*
Median adjusted household income	15,000	11,000*	52,500*	38,900*

* significant difference from the employed low-income (reference group) at the 5% level
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Data sources and definitions

The Canadian Financial Capability Survey (CFCS) is a voluntary survey conducted in 2009, targeting persons 18 years of age and over. Full-time residents of Yukon, the Northwest Territories and Nunavut were excluded. Since the survey was conducted using a sample of telephone numbers, the 8% of households without telephones or with cell phones only were excluded. One respondent was selected from each household. The CFCS sheds light on respondents' personal knowledge, abilities and behaviours concerning financial decision-making. Information on their families' assets, debts, and net worth is also available. Although family-level responses may not apply to all family units in the sampled household, the data are weighted to represent all individuals in the target population.

One limitation of the CFCS is that only about 50% of the respondents completely reported their assets and net worth. Given the high item non-response rate, biased estimates of wealth differences among groups were a possibility. Prior to 2009, asset and debt information was most recently collected in the 2005 Survey of Financial Security (SFS). Although the number of responses to the 2005 SFS was smaller than the number of responses to the CFCS (6,000 compared to 15,500), the item response rates for wealth items were higher and imputed if missing. The SFS thus provides a ready source for the validation of CFCS estimates even though its sample size limits the precision of estimates for smaller population groups. As such, the asset and debt tabulations were replicated using the 2005 SFS. The results presented in this article would be substantially the same for each survey even though many estimates differed in level. Thus the CFCS can identify statistically significant differences in assets and debts among groups, although the levels may be biased and should not be used to infer trends in relation to the 2005 (or 1999) SFS.

The target population for this study includes individuals from age 25 to 64. Students are excluded. The target population is divided into four groups:

- individuals in employed low-income families
- individuals in not-employed low-income families
- individuals in employed non-low-income families
- individuals in not-employed non-low-income families.

The target population included 10,875 respondents and represented over 18 million individuals in 2009. The sample of individuals living in employed low-income families was 1,010. Only the first three groups are examined in the main analysis.

The employed low-income group must be framed within the household and family contexts, as household income is used to determine the group's low-income status and the family is used to determine employed or not-employed status. An employed family is defined as a family with at least one employed individual. Therefore an individual living in an employed low-income family may not actually be employed himself or herself. Assets and debts are also reported at the family level in the CFCS. Thus, the major units of analysis in this report are defined along family concepts. On the other hand, the household reference person rather than the family is the unit of analysis in the CFCS, and questions relating to financial security are directed to that individual. Furthermore, LIM also uses adjusted household income observed at the person level.[5] Therefore, this study more accurately examines 'individuals living in employed low-income families' rather than 'employed low-income families' or 'employed low-income individuals.' However, for simplicity, this paper will refer to 'individuals living in employed-low-income families' as 'employed low-income families,' and similarly so for comparison groups.[6] See the appendix for a comparison of low income calculated using the CFCS and SLID.

Wealth (net worth) is defined as the difference between a family's assets and its total debts. Future entitlements to social security provided by the government such as Old Age Security, and Canada Pension Plan and Quebec Pension Plan benefits are not included as they were not available in the CFCS.

The median household income for employed low-income families was $25,000 in 2009 compared to $15,000 for low-income families with no one employed. Since the not-employed families were smaller, the difference between the two groups shrank after adjustments were made for family size: from $10,000 to $4,000. Similar to previous findings, the adjusted household income of employed low-income families was less than one-third of that of employed non-low-income families.

Among low-income families, the employed have higher median wealth

Wealth or net worth is defined as the difference between a family's total assets and total debts.[8] Since wealth varies by age, the results are standardized to the age distribution of individuals in employed low-income families to counteract the effect of age differences among the groups.

On average, employed low-income families have greater wealth than other low-income families, but lower wealth than employed non-low-income families. The median net worth of employed low-income families was $19,000 compared to $1,000 for other low-income families, and $257,700 for employed non-low-income families (Table 2).

Assets

The assets contributing to net worth highlight further differences among groups. The median value of total assets for employed low-income families ($60,000) fell between the other two groups: significantly higher than the other low-income group ($3,000) but less than one-sixth of the median of the other employed group ($389,200).

Home equity is the most valuable asset for many Canadians. More than one-half of employed low-income families owned their homes compared to just over one-third of the other low-income group.

Employed low-income families were also more likely to hold other financial assets (excluding RRSPs) than other low-income families. Furthermore, 42% of the employed low-income had RRSPs compared to 22% among other low-income families. The liquidity of such assets can help families weather temporary shocks like the loss of a job or an unexpected expense.

Although Registered Education Savings Plans (RESPs) are used by relatively few low-income families, employed low-income families are twice as likely to hold an RESP compared to other low-income families (20% versus 10%).

Table 2 Assets, debts, and net worth by employment income group

	Employed low-income	Not-employed low-income	Employed non-low-income
Net worth		$	
Median value of net worth	19,000	1,000*	257,700*
Mean value of net worth	151,000	41,700*	531,600*
		%	
Net worth not stated	54	45	49
Assets		$	
Median value of total assets	60,000	3,000*	389,200*
Mean value of total assets	200,900	59,100*	643,600*
Type of asset		%	
Tangible assets	87	69*	97*
Home ownership			
Owns home without mortgage	20	20	22*
Owns home with mortgage	38	16*	58*
Does not own home	42	64*	20*
		years	
Average years of remaining mortgage	16.0	12.1*	14.2*
		%	
RRSP	42	22*	81*
RESP	20	10*	29*
Other financial assets	52	37*	78*
Business assets	16	F	18*
No assets	13	36	1*
Total assets not stated	51	42	48
Debts		$	
Median total debt	10,000	0	50,000
Mean total debt	63,000	17,300*	113,100*
		ratio	
Median debt-to-income ratio	1.00	0.64*	0.90*
Median debt-to-asset ratio	0.44	0.49*	0.27*
Type of debt		%	
Mortgage	42	16*	64*
Student loan	13	15*	14
Outstanding credit card balance	40	26*	41
Outstanding balance on line of credit	21	11*	38*
Other loans and liabilities	25	15*	30*
No debts or liabilities	31	56*	17*
Total debts not stated	20	17	18

* significant difference from the employed low-income (reference group) at the 5% level

Note: Median values are bootstrap-weighted but not age-standardized. Age-standardized medians are estimated but not reported in the table as they cannot be bootstrap-weighted and tested for significance. Individuals in employed low-income families are used as the base profile so medians do not change for this group. The age-standardized median net worth value is $250 for not-employed low-income families, and $247,000 for employed non-low-income families. The age-standardized median total assets are $2,000 for not-employed low-income families, and $382,300 for employed non-low-income families. The age-standardized median total debt is $0 for not-employed low-income families, and $55,000 for employed non-low-income families.

Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

About 1 in 6 (16%) employed low-income families held business assets—slightly less than the 18% of employed non-low-income families who held such assets.

Debts and liabilities

In addition to having a higher level of assets, employed low-income families also carried more debt, on average, than other low-income families. Just over one-half (56%) of not-employed low-income families carried no debt compared to 31% of employed low-income families.

The higher incidence of debt among employed low-income families was primarily due to mortgages. Notably, 42% of employed low-income families had mortgages on their homes compared to 16% of other low-income families. Employed low-income families also surpassed other low-income families in the incidence of all other types of debt except student loans. Counter to most financial advice, 4 in 10 employed low-income families carry outstanding credit card balances.

In summary, the average wealth of employed low-income families exceeded that of other low-income families, but was significantly lower than that of employed non-low-income families. Did these differences in wealth translate into other indicators of financial security? The next section looks at the financial security of employed low-income families compared to the other two groups.

Employed low-income families less likely to be behind on payments than others in low income

Over one-half of all families reported having a household budget (Table 3). A slightly smaller proportion of employed low-income families reported having a household budget (54%) than other groups. However, they were also less likely to report rarely or never staying within their budget (11%) than the other low-income group (14%). In other words, they were a bit better at staying on budget than the other low-income families.

Just over one-half of employed low-income families have monthly expenses under $2,000 compared to 3 out of 4 in the other low-income group. Despite higher spending, a smaller proportion of employed low-income families reported falling behind on payments.[9]

Employed low-income families more likely than other low-income families to have enough savings to cover unexpected expenses

Having a 'rainy day' fund helps during periods of financial hardship or given an unexpected expense. When asked what individuals would do given a $500 unexpected expense, 46% of those in employed low-income families said they would use savings to cover such an expense (Chart A). This is higher than the other low-income group (with no employed family members), among whom less than one-third would use savings to cover such an expense.

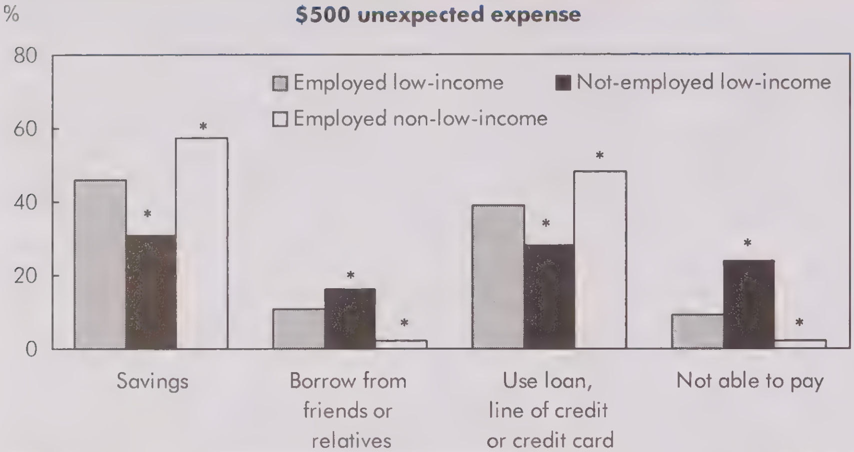
However, if the unexpected expense were $5,000, the proportion of employed low-income families who would use savings to cover the expense would only be slightly higher (17%) than the other low-income group (14%) (Chart B).

Table 3 Household budget and expenses by family type

	Employed low-income	Not-employed low-income	Employed non-low-income
		%	
Have a household budget	54	57*	55*
Rarely/never stay on budget	11	14*	9*
Average monthly expenses			
Less than $2,000	53	76*	33*
$2,000 to $3,999	40	22*	55*
$4,000 or more	7	F	12*
At least two months behind in...			
Paying bills	23	29*	10*
Mortgage payments	5	7*	1*
Loan payments	7	8*	2*

* significant difference from the employed low-income (reference group) at the 5% level
Note: Results are age-standardized.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Chart A Ability to pay a $500 unexpected expense by family type



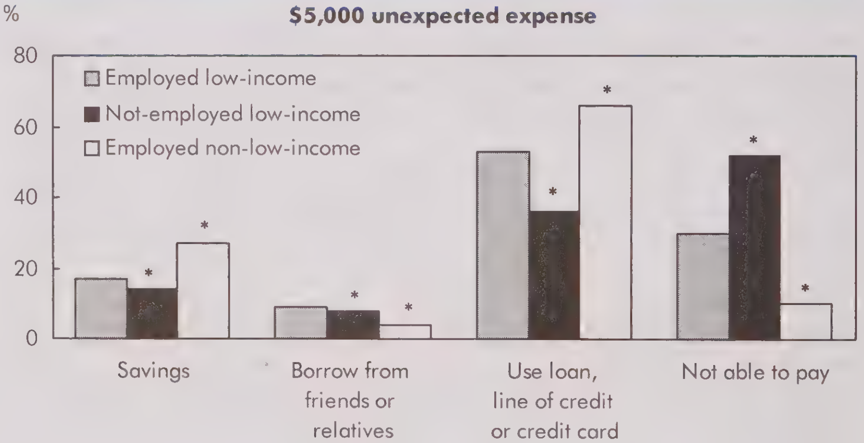
* significant difference from the employed low-income (reference group) at the 5% level
Note: Results are age-standardized. Proportions may not add to 100% as categories are not mutually exclusive. Individuals may have multiple responses.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Employed low-income families more likely to prepare for retirement than other low-income group

Over one-half of employed low-income families reported preparing financially for retirement compared to less than one-quarter of the other low-income families (Table 4). A slightly higher proportion of not-employed low-income families plan to rely on government pensions than employed low-income families (86% and 81%, respectively). However, a higher proportion of the employed low-income included employer pensions as a planned source of retirement revenue than others in low income (44% and 33%, respectively).

Employed low-income families would be less likely to borrow from friends or relatives than other low-income families (11% and 16%, respectively) but a higher proportion would draw on lines of credit or credit cards (39% versus 28%). For a larger unexpected expense, both low-income groups would be less likely to go to their friends or families for a loan. Instead, over one-half of employed low-income families would borrow the $5,000 from a line of credit or credit card, compared to just over one-third of the other low-income group. The not-employed low-income were more likely to report that they would be unable to pay (52%) than employed low-income families (30%).

Chart B Ability to pay a $5,000 unexpected expense by family type



* significant difference from the employed low-income (reference group) at the 5% level
Note: Results are age-standardized. Proportions may not add to 100% as categories are not mutually exclusive. Individuals may have multiple responses.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Table 4 Retirement preparation by family type

	Employed low-income	Not-employed low-income	Employed non-low-income
		%	
Financially preparing for retirement	**52**	**24***	**85***
Sources of revenue included in financial plan			
Government pensions	81	86*	82*
Employer pensions	44	33*	61*
RRSP	65	50*	85*
Sale of assets	31	33	35*
Rely on family or inheritance	30	39*	27*
Earnings in retirement	53	50*	52*
Reason for not financially preparing for retirement[1]			
Can't afford to, don't earn enough, income too low	50	39*	42*
Don't have a job, haven't worked long enough	14	40*	10*
Too many debts, bills, financial commitments	8	7*	11*
Don't think about it, haven't got around to it	11	7*	13*
I'm young, lots of time	10	F	11
Level of confidence of income in retirement			
Very confident	12	14*	18*
Fairly confident	38	28*	53*
Not very confident	33	31*	22*
Not at all confident	16	26*	7*
Know level of income needed in retirement	26	22*	48*

* significant difference from the employed low-income (reference group) at the 5% level
1. Other reasons not shown in this table for not planning for retirement include relying on government pension; relying on partner's pension; relying on future inheritance; relying on financial support from family; don't think I'll live that long; waiting to get a job with a pension plan; and other reasons. Data for these reasons are excluded from the table due to low cell count.

Note: Results are age-standardized. Proportions for sources of revenue and reason not financially prepared may not add to 100% as responses are not mutually exclusive.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

RRSPs also figured into many families' retirement plans. Employed low-income families were more likely to include RRSPs (65%) in their retirement plans than others in low income (50%). Although both low-income groups had lower intentions of using RRSPs in retirement than employed non-low-income families, RRSPs may not be the best retirement savings vehicle for many in low income. Since the main transfer program for low-income seniors, the Guaranteed Income Supplement (GIS), is reduced by 50 cents for each dollar of additional income above an income threshold, the advantages of investing in RRSPs are diminished for low-income families. Previous research indicated that low-income non-savers may be better off than those with modest savings given the GIS eligibility requirements in place at the time (Shillington 2003).

Working during the retirement years is another option. Despite the differences in their current situations, similar proportions of each group reported that they would at least partially rely on employment earnings when they retire—ranging from 50% to 53%. While working during the retirement years is likely to be financially driven, it is becoming more common and previous research has concluded that it may often be a choice rather than a necessity (Hébert and Luong 2008).

For those who reported they were not financially preparing for retirement, the most frequent reason was "can't afford to, don't earn enough, income too low." Employed low-income families were most likely to cite this reason (50%) followed by the employed non-low-income group (42%). On the other hand, 40% of the not-employed low-income group reported "don't have a job, haven't worked long enough" as their reason for not financially preparing for retirement compared to 14% of the employed low-income group—a reminder that the concept of retirement is, after all, linked to long-term labour force attachment.

When asked how confident respondents were that their household income in retirement would provide the standard of living they anticipated, few low-income families were very confident (12% for employed families and 14% for not-employed families). However, employed low-income families

were more likely to report being fairly confident than the other low-income group (38% versus 28%). Although one-half of employed low-income families were very or fairly confident in their income adequacy in retirement, just one-quarter knew how much money would be needed to maintain their desired standard of living. This likely reflects the range of factors that can affect income retirement adequacy, as well as the range of opinions on the topic.

Conclusion

In addition to income, wealth is an important indicator of well-being since some assets could presumably be converted into cash for immediate consumption needs, especially during periods of economic hardship. This study examined the wealth, financial security and retirement plans of individuals living in employed low-income families compared to those in not-employed low-income families and those in employed non-low-income families.

On the whole, the wealth of employed low-income families was higher than that of not-employed low-income families, but was significantly lower than that of the employed non-low-income group. An examination of assets and debts adds nuances to this finding. While 69% of employed low-income families carried debt compared to 44% of the other low-income group, a large proportion of their debt took the form of residential mortgages. Much of their debt thus supported the long-term advantages of home ownership: greater wealth and lower housing expenses when the mortgage is paid off. However, employed low-income families were also more likely to carry consumer debt than the other low-income group. Notably, 4 in 10 employed low-income families carry outstanding credit card debt.

Indicators of financial security again highlight some differences between employed and not-employed low-income families, as well as their position relative to families not in low income. Employed low-income families were less likely to report not keeping up with payments than other low-income families, despite higher expenses. Nevertheless, when compared to the other employed group, employed low-income families were twice as likely to be behind in their payments.

Another indicator of financial security is how families would deal with an unexpected expense. Compared to others in low income, a smaller proportion of employed low-income families reported that they would not be able to cover the expense, whether the amount were $500 or $5,000. Moreover, the employed low-income group would be more likely to use savings to cover such an expense than the other low-income group. Altogether, these results indicate that employed low-income families were likely to feel more financially secure than the other low-income families but likely to feel less secure than families who weren't in low income.

Retirement planning also differed for the two low-income groups. Employed low-income families were more likely to have a plan that included more diverse sources of income than other low-income families. Families with a weaker connection to the labour market would be less likely to include workplace pensions or group RRSPs in their plans. Moreover, retirement planning may be a moot point for some since government pensions and other transfers to seniors replace a higher level of pre-retirement income for those near the bottom of the income distribution (LaRochelle-Côté et al. 2010).

Perspectives

Notes

1. Estimated using the Low Income Measure (LIM) from the 2008 Survey of Labour and Income Dynamics. LIM is defined as 50% of the median of the adjusted household income over the population of individuals.
2. Using the 2008 Survey of Labour and Income Dynamics, the proportion of the low-income who were part of an employed family is based on the definition of an employed family where either the reference person or the spouse was employed a minimum of 910 hours during the reference year (Fleury and Fortin 2006). This proportion increases to 51% of all families when those with any work hours are included.
3. Previous studies have used the term 'working poor.' Statistics Canada does not measure poverty—it measures low income.
4. The inter-group differences in assets and debts were in the same direction and were statistically significant in both surveys, but varied in level. There was no clear pattern in the SFS–CFCS-level differences—they were negative in some cases, positive in others.
5. LIM previously estimated the median over the population of families. However, this has been revised and it now estimates the median over the population of individuals. LIM is now defined as 50% of the median of the adjusted household income observed at the person level (Murphy et al. 2010).

Appendix
Employment and low-income definition comparisons between SLID and the CFCS

Using the CFCS, individual employment status is identified using the variable LF_Q01, which asks about the respondent's employment status. Respondents are flagged as employed if they reported currently being employed or self-employed (regardless of the number of hours worked per week). Additionally, the variable LF_Q05 is similarly used to determine the employment status of the spouse.

In this study, low-income status is defined by adjusting the self-reported total household income before taxes by the square root of the household size.[10] The low-income threshold for 2008[11] is $21,189[12] and is used to determine whether families are living in low income. Those who had adjusted total household income[13] before taxes below the LIM threshold are flagged as living in low income. Finally, individuals are categorized as employed low-income, not-employed low-income or employed non-low-income based on their employment and low-income status.

Two employment definitions using the 2008 Survey of Labour and Income Dynamics (SLID) are used for comparison with the CFCS. Previously, Fleury and Fortin (2006) identified 910 hours as the threshold for being employed. They reasoned that an individual (or his or her spouse) should work for at least half the year in order to be considered employed. However, hours of work information was not available in the CFCS, thus an alternate definition was used: whether an individual (or their spouse) was employed at the time of the survey.

Results indicate the proportion employed estimated by the CFCS falls between the two SLID estimates (Table 5). The estimates using both surveys for the low-income estimates are very close, with the CFCS higher by 1 percentage point.

The proportion of individuals in employed low-income families in the CFCS matches that of the positive hours estimate in SLID (9%). The CFCS estimates for all the other groups fall somewhere between the two SLID definitions.

Overall, the proportion by employment and low-income status estimated by the CFCS is comparable to that for both measures using SLID. A closer examination of the sample profile by family type shows similar distributions between the SLID self-reported definition and the CFCS definition. Therefore, the samples are sufficiently consistent between the two surveys to conclude that the CFCS provides an accurate representation of the employed low-income group.

Table 5 SLID and CFCS definition comparison of employment income groups from age 25 to 64

	SLID		CFCS	
	Work hours 910 or more	Work hours more than 0	Self-reported	Population
	'000			
Total population	**18,428**		**18,253**	
	%		%	'000
Employed	82	89	86	15,631
Low-income	14	14	15	2,819
Employed low-income	7	9	9	1,632
Not-employed low-income	8	6	7	1,187
Employed non-low-income	76	81	77	13,999
Not-employed non-low-income	10	5	8	1,434

Note: Total annual hours were used and divided by 52 weeks to estimate weekly hours worked.
Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008; Canadian Financial Capability Survey (CFCS), 2009.

6. Individuals living in not-employed low-income families may be referred to as 'the not-employed low-income' or 'the other low-income group.' Individuals living in employed non-low-income families may be referred to as 'the employed non-low-income' or 'the other employed group.'
7. An individual was defined as living in an employed family if the respondent and/or his or her spouse was employed at the time of the survey.
8. Morissette et al. (2002) used the same definition of wealth as this study. However, it was not possible to examine 'financial wealth' using the CFCS since net housing equity and net business equity cannot be separated from total asset value.
9. The CFCS asked respondents whether they had been behind on various payments for two consecutive months or more.
10. In 2010, the equivalence scale was changed from a given weight depending on the age and number of family members to simply taking the square root of the household size (Murphy et al. 2010).
11. Although the CFCS was conducted in 2009, income is reported for 2008.
12. LIM is defined as 50% of the median of the adjusted household income over the population of individuals. In this analysis, the LIM threshold for 2008 ($21,189) was used as the threshold for determining whether an

individual was in low income. This threshold was calculated using income data from the Survey of Labour and Income Dynamics and can be found in CANSIM Table 202-0808. Although the CFCS was conducted in 2009, the reference year for the income information is 2008. Therefore, the 2008 LIM threshold was used.

13. Another change made to LIM is the use of household income rather than economic family income (Murphy et al. 2010).

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Job-related training of immigrants

Jungwee Park

Due to challenges associated with differences in language, culture and labour market networks, immigrants may find it difficult to acquire job-related training in Canada. Similarly, immigrants with credentials and skills obtained in foreign countries may encounter difficulties getting their qualifications and experience recognized. This could act as a barrier to job training, especially if training prerequisites are related to credentials (Lochhead 2002). To the extent that such barriers exist, they could impede the labour market integration of newcomers since most immigrants do plan to get job-related training or education (Statistics Canada 2003).

Few recent Canadian studies have investigated job-related training among immigrants. Using data from the 1998 Adult Education and Training Survey (AETS), Hum and Simpson (2003) reported that immigrant workers had a lower participation rate in job-related training than their Canadian-born counterparts (Hum and Simpson 2003). According to this study, immigrants who arrived in Canada as adults, in particular, trained less.[1] Since other research indicates that the labour market situation of immigrants has deteriorated in the past decade, their training situation merits updating.

Although immigration status by itself provides useful information, there are other characteristics of newcomers that may affect training. Economic, family-class and refugee immigrants arrive under different circumstances and thus have different training needs. Age at arrival and source country may also affect training. Immigrants' situations will also evolve after they arrive, so time since immigration and citizenship are other likely sources of variation.

The Access and Support to Education and Training Survey (ASETS), most recently conducted in 2008, provides detailed information on adult education including job-related training (see *Data source and definitions*). The survey also collects data on demographic, labour market and immigration characteristics. This article focuses on the population age 18 to 64 who worked at a job or business at any time between July 2007 and June 2008, excluding full-time students and temporary residents.

In addition to current job training, this article also covers job training during the past 5 years, which helps to assess whether persistent differences in job-related training opportunities among subgroups of employees exist.

Immigrants and non-immigrants are compared across several aspects of job-related training—participation, intensity, and perceived barriers—in order to answer the following research questions:

1. To what extent do immigrant employees participate in job-related training? Is their participation comparable to that of Canadian-born workers? Are there differences in the subjects, objectives and satisfaction with training between the two groups?

2. Are there any sub-groups of immigrant employees who show significantly different levels of participation in job-related training?

3. Are there differences in the intensity of job-related training between immigrants and the Canadian-born? Are there differences in employer support for training activities?

4. Which demographic and labour market characteristics are related to the likelihood of immigrant employees' participation in job training? Compared to the Canadian-born, is the training of immigrant workers correlated with similar factors?

5. To what extent do immigrant employees perceive barriers to job-related training? Do foreign-born workers perceive different barriers compared with Canadian-born workers?

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Data source and definitions

The data source is the most recent cycle (2008) of the Access and Support to Education and Training Survey (ASETS). ASETS is a new survey of 72,000 households and is a combination of three previously conducted surveys: the Survey of Approaches to Educational Planning, the Post-Secondary Education Participation Survey, and the Adult Education and Training Survey (Statistics Canada 2008). Data collection took place between June and October 2008. Most survey questions refer to activities undertaken between July 2007 and June 2008. Information collected in this survey includes the incidence and intensity of adults' participation in job-related training, a profile of employer support, and barriers preventing individuals from participating in training they want or need to take. The survey also contains information on labour market and other personal characteristics. ASETS collects immigration-related information such as respondents' immigration status, age at immigration, immigration class, country of birth and citizenship status.

For this study, the population includes those age 18 to 64 who worked at a job or business at any time between July 2007 and June 2008 (total 17.0 million, immigrants 3.3 million), excluding full-time students and those who are neither Canadian citizens nor landed immigrants. The sample size was 17,500 (immigrant n=2,300).

Given the complex nature of the survey design, bootstrap estimation was used to derive the variances for odds ratios and percentages.

Job-related learning refers to activities under taken for the development or upgrading of skills for use in present or future employment rather than personal interest or other non-employment related reasons. ASETS collected information on two components of lifelong learning—education and training. **Job education**, also referred to as 'education programs,' encompasses learning activities provided in formal systems of education, which lead to a formal education credential, including primary and secondary level education, and postsecondary education like university and college diplomas and degrees. On the other hand, **job training**, also referred to as 'training activities,' includes courses and workshops not leading to a formal education credential.

Employer support consists of one or more of the following: providing the training, paying for the training (either directly or by reimbursing the employee), allowing a flexible work schedule to accommodate training or providing transportation to and from the training location. ASETS collected information on employer support for one randomly selected training activity rather than all training activities.

Satisfaction with training participation is determined by a response to the following question asked to training participants: "Were there any circumstances that made it difficult for you to participate in this program?" If the response was "no difficulty," the participant was considered satisfied with his or her training participation. The survey considered "difficult circumstances" to include "you were too busy at work," "your program conflicted with your work schedule," "there was lack of support from your employer," "your family responsibilities were too great," "you had financial constraints," or "another reason."

Satisfaction with training effect is measured by a series of questions asking if the most recent job-related training had actually helped achieve each of their training objectives up to now (Table 3). If a respondent answered positively to any one of those questions, he or she was considered satisfied with the effect of the training.

Occupational skill includes four groups based on HRSDC's National Occupational Classification Matrix 2006:

- management
- occupations that usually require a university education
- occupations that usually require a college education or apprenticeship training
- occupations that usually require secondary school and/or occupation-specific training, and occupations for which on-the-job training is usually provided.

Industry was divided into two categories:

- goods-producing industries comprising agriculture, forestry, fishing, mining, oil and gas, utilities, construction, and manufacturing
- service industries comprising trade, transportation, finance, insurance, real estate and leasing, professional, scientific and technical services, education, health care and social assistance, information, culture and recreation, accommodation and food services, and public administration.

Job-related training versus job education

Job-related learning can be divided into job-related training and job education related to a current or future job. Job-related training encompasses structured learning activities and includes courses, workshops, private lessons and guided on-the-job training, but does not lead to a formal education credential. Job education, on the other hand, involves programs leading to formal credentials (Knighton et al. 2009). Both types include employer-supported and non-supported activities. This analysis focuses on job-related training rather than job education since training is by far the larger component[2] (for job education undertaken by immigrants, see *Job-related education programs*).

Job-related education programs

In 2008, about 1 in 10 employees participated in job-related education programs (Table 1). Almost one-half of those participants were supported by their employers. Between immigrant and Canadian-born employees, there were no statistically significant differences in participation in job-related education programs leading to a formal credential. In terms of the type of programs, however, there was a significant difference between immigrants and non-immigrants. Among male participants, a significantly greater proportion of immigrants than their Canadian-born counterparts took an education program leading to a credential above the bachelor level. This reflects the higher education level of immigrants compared to the Canadian-born population.

Table 1 Job-related programs taken by Canadian-born and immigrant employees

	Men		Women	
	Canadian-born	Immigrants	Canadian-born	Immigrants
	%			
Overall participation	10.6	11.3	12.6	11.1
Employer support among participants	54.1	44.7	46.5	46.7
Program type leading to credentials				
Lower than bachelors degree	40.1	30.7E	36.4	39.1
Bachelors degree	19.2	14.6E	20.9	16.0E
Higher than bachelors degree	25.3	41.0*	27.9	34.3
Other	6.9E	F	8.8	F

* significantly different from the Canadian-born population at the 5% level
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

Immigrant workers had lower participation in job-related training

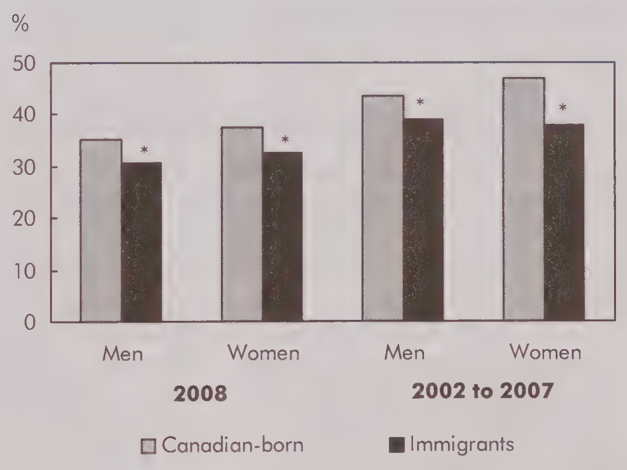
Overall, Canadian-born employees received more job-related training than immigrant employees (Chart A). Between July 2007 and June 2008, 35% of Canadian-born men received job training compared to 31% of immigrant men. Among women, 37% of the Canadian-born and 33% of immigrant workers took some job-related training.

Job-training experiences over the past 5 years also differed. For example, 62% of immigrant women employees reported not having received any job training in this period compared to 53% of non-immigrant women.

Research shows that previous training increases the likelihood of taking further training (Hum and Simpson 2003). Indeed, more than 60% of workers who received job training in 2008 reported that they had some training in the previous 5 years while only 36% of non-participants reported that they had some training in that period (data not shown).

Most training (83%) was at least partially supported by the employer. Means of support can include paying for training or allowing flexible hours (see *Data source*

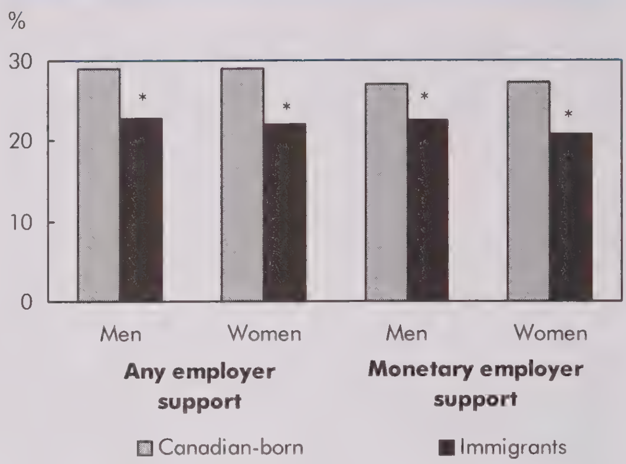
Chart A Immigrants had lower participation in job training



* significantly different from the native-born population at the 5% level
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

and definitions). The gap between immigrant and non-immigrant workers in terms of employer-supported job training was greater than the gap in overall training activities (Chart B). Immigrant employees were less likely to take job-related courses that their employers supported in any way than their non-immigrant counterparts. Much of the gap was due to differences in the rate of financial support for training.

Chart B Immigrants had lower participation in employer-supported job training



* significantly different from the native-born population at the 5% level
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

Similar subjects, goals and results of job training for immigrants and Canadian-born

ASETS collects information on the main subject of one job-related course and classifies it into 1 of 14 categories.[3] The categories range from apprenticeship training to professional training and personal development.

Professional training was the most frequently mentioned category for immigrants, accounting for one-quarter of training activities of both women and men (Table 2). A greater proportion of training taken by immigrant men (16%) was computer-related courses compared to their non-immigrant counterparts (9%). On the other hand, training taken by Canadian-born men was more likely to be related to apprenticeship, equipment, or sales than that taken by immigrant men.

Immigrants and the Canadian-born shared similar goals and expressed a similar level of satisfaction with their training. The improvement of job performance was mentioned as a training objective by most trainees (Table 3). The second most reported objective for both Canadian-born and immigrant workers was "to meet requirements."

Table 2 Subject of job-related course[1] taken by Canadian-born and immigrant employees

	Men		Women	
	Canadian-born	Immigrants	Canadian-born	Immigrants
	%			
Managerial-supervisory training	8.2	8.5E	5.6	6.6E
Computer hardware/software	8.6	16.0E*	7.6	8.6E
Apprenticeship/equipment/sales	10.6	5.6E*	5.6	F
Professional training	17.5	25.3*	24.9	25.7
Occupational health and safety	17.3	15.4E	11.3	9.6E
Group decision-making/problem solving/ team building/communication	2.5E	5.7E	4.4	8.3E
Orientation/personal development/basic skills/language	8.7	7.1E	12.8	14.1E
Other	26.5	17.3E*	28.0	25.9

* significantly different from the Canadian-born population at the 5% level
1. One course selected randomly.
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

Table 3 Training objectives and satisfaction for training participants

	Men		Women	
	Canadian-born	Immi-grants	Canadian-born	Immi-grants
	%			
Training objectives[1]				
Increase income	9.5	7.6E	5.6	7.8E
Avoid losing job	5.6	5.3E	4.8	6.5E
Meet requirements	43.6	46.6	36.8	31.8
Start own business	1.5E	F	2.1E	F
Perform better at job	72.3	76.0	77.9	78.5
Prepare for first career/find a job	3.7	4.7E	3.1	4.4E
Change careers/get a promotion	7.5	10.9E	6.0	6.0E
Other	2.3E	F	1.7E	F
Training satisfaction				
Satisfaction with training participation	78.0	72.4	75.3	73.1
Satisfaction with training effect	89.2	92.0	87.9	87.3

1. Multiple answers were allowed.
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

The vast majority reported that they were satisfied with the effects of training in relation to their objectives. For example, 92% of immigrant men and 87% of immigrant women reported that their training activities helped them achieve the training objectives they had set. Overall, around three-quarters of all participants were satisfied with their training participation, indicating that they did not encounter difficulties attending because of, for example, workload or work-schedule conflicts (see *Data source and definitions*). In other words, immigrant workers were as satisfied with the process and results of job training as their non-immigrant counterparts.

Training participation varies by immigrant characteristics

Since the immigrant population varies widely across a number of dimensions, job-related training may be influenced by these factors. Five immigration-related variables—immigration class, citizenship, age at immigration, years since immigration, and country of birth of the immigrant—are examined. The results include incidence rates and regression analyses that identify differences in training participation while controlling for a number of other factors.[4]

About 31% of immigrant men and 33% of immigrant women employees participated in job-related training in 2008 (Table 4). The predicted probabilities of participating in training for immigrant men and women were significantly lower than those for Canadian-born workers after controls for other factors were in place. Immigrant men were almost 20% less likely and immigrant women were about 15% less likely than their Canadian-born counterparts to receive job training.

To study the effects for immigration-related characteristics, five additional regression models were estimated. For each of the five immigrant variables modeled, the Canadian-born are the reference group.

Certain groups of immigrants were less likely to receive training. For example, among female workers, family-class immigrants had significantly lower odds of receiving training and lower incidence rates (6 percentage point difference) than Canadian-born workers. Family-class immigration is for family members who wish to come from other countries to reunite with the sponsoring member in Canada. Those who immigrated for family reunification may be less prepared for the labour market than other skilled immigrants (Aydemir 2010).

Non-citizen employees were also less likely to receive job-related training. Only 1 in 5 non-citizen men received job training in 2008 compared with 35% of the Canadian-born and 32% of naturalized citizens. The training participation rates for non-citizens remained significantly lower than those of naturalized citizens as well as the Canadian-born after controlling for other factors. As Canadian citizenship includes a language and residence requirement (at least three years over a four-year time span), naturalized citizens may be more prepared to undertake job training than non-citizen immigrants.

Male employees who migrated as adults (18 and over) were 25% less likely to receive training than their Canadian-born counterparts. Unlike those who immigrate at a younger age, adult immigrants are less likely to have a Canadian education and may experience difficulties getting foreign credentials rec-

Table 4 Incidence rates and odds of predicted probability of participation in job-related training

	Men		Women	
	Incidence (%)	Odds of predicted probability[1]	Incidence (%)	Odds of predicted probability[1]
Canadian-born (ref.)	35.1	ref.	37.4	ref.
Immigrants	30.5*	0.82*	32.7*	0.86*
Immigration class				
Family-class	27.9*	0.78*	31.4*	0.87*
Economic immigrants	34.2	0.83	30.6	0.83
Refugees/others	25.1*E	0.85	28.4E	0.89
Citizenship				
Naturalized citizen	32.1	0.84*	30.7*	0.82*
Non-citizen	20.1*E	0.68*	28.6*	0.94
Age at immigration				
Less than 18	31.9	0.86	33.7	0.87
18 or over	27.8*	0.75*	29.0*	0.85*
Years since immigration				
10 years or less	26.0*	0.76*	23.5*	0.82
More than 10 years	31.0	0.82*	33.5	0.86*
Country of birth				
United States, northern/ western Europe[2]	29.5	0.75*	37.8	0.87
Other countries	30.7	0.84*	31.5*	0.85

* significantly different from reference group (ref.) at the 5% level
1. Variables controlled for age, education level, personal income, ethnic origin, marital status, language spoken at home, job tenure, full-time/part-time, permanent job status, unionization, occupation, firm size, job sector (public/private), industry.
2. Comprises Ireland, Denmark, Finland, Iceland, Norway, Sweden, United Kingdom, Austria, Belgium, France, Germany, the Netherlands, and Switzerland.

Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

ognized. Furthermore, challenges associated with migration, like language and cultural barriers, tend to be more pronounced among immigrants who arrive as adults (Hum and Simpson 2003).

Immigrants who came to Canada within the last 10 years were less likely than the Canadian-born to have access to job training. The rate of job training for recent immigrant women (24%) was significantly lower than the rates for established immigrants (34%) and non-immigrants (37%).

Source countries were divided into two groups. Immigrants from the United States and northern and western European countries—who may be more likely to speak English or French and experience fewer difficulties with their foreign credentials—comprise the first group. The second group encompasses immigrants from all other parts of the world. Female employees who emigrated from other countries were less likely to participate in job-related training than their Canadian-born counterparts.

Less employer-supported training for some immigrant groups

Similar to the results for all job training, the five immigrant characteristics were related to access to employer-supported training. Overall, the predicted probability for immigrant men's receipt of employer-supported job training was 24% lower than that for Canadian-born males. Compared with Canadian-born women, immigrant women employees had about a 22% lower probability (Table 5).

Family-class immigrants, both men and women, were less likely to participate in employer-supported job-training activities. Similarly, the probability of receiving employer-supported job training for non-citizen men was less than one-half that for their Canadian-born counterparts. Moreover, the participation rate in employer-supported training was much lower for non-citizen immigrants than naturalized citizens (11% versus 26%).

Immigrant employees who migrated as adults (18 and over) were less likely to receive training than their Canadian-born counterparts: 22% of those who as adults received employer-supported job training in the past year compared with 29% of Canadian-born workers.

Immigrants who came to Canada in the last 10 years were less likely to receive employer-sponsored job training than Canadian-born workers.

Results indicated that recent immigrants were about 30% less likely to receive employer-sponsored training, although only the results for women were statistically significant. The finding seems incongru-

Table 5 Incidence rates and odds of predicted probability of participation in employer-supported job training

	Men		Women	
	Incidence (%)	Odds of predicted probability[1]	Incidence (%)	Odds of predicted probability[1]
Canadian-born (ref.)	28.9	ref.	29.0	ref.
Immigrants	22.8*	0.76*	22.1*	0.78*
Immigration class				
Family-class	21.5*	0.74*	22.5*	0.78*
Economic immigrants	25.7	0.82	23.5^{E}	0.80
Refugees/others	22.9^{E}	1.00	22.1^{E}	0.91
Citizenship				
Naturalized citizen	26.4	0.87	23.3*	0.76*
Non-citizen	11.2*^{E}	0.49*	18.2*^{E}	0.83
Age at immigration				
Less than 18	24.5	0.82	23.8	0.78*
18 or over	21.8*	0.75*	21.7*	0.81
Years since immigration				
10 years or less	19.0*	0.74	15.0*^{E}	0.72*
More than 10 years	24.7	0.80*	25.6	0.81*
Country of birth				
United States, northern/ western Europe[2]	25.9	0.76	30.0	0.85
Other countries	22.3*	0.81	20.1*	0.75*

* significantly different from reference group (ref.) at the 5% level
1. Variables controlled for age, education level, personal income, ethnic origin, marital status, language spoken at home, job tenure, full-time/part-time, permanent job status, unionization, occupation, firm size, job sector (public/private), and industry.
2. Comprises Ireland, Denmark, Finland, Iceland, Norway, Sweden, United Kingdom, Austria, Belgium, France, Germany, the Netherlands, and Switzerland.

Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

ous given recent immigrants' relatively higher level of educational attainment, which is an important determinant of participation in job training. However, recent immigrants may be disproportionately located in the types of jobs for which training is less likely to be provided (Lochhead 2002).

No differences in intensity of training

The intensity of job training is measured by the duration of training in hours and the number of courses taken. Among those who participated in job training, there were no significant differences in intensity between immigrant and Canadian-born workers. The average duration of job training activities for Canadian-born men was 56 hours per year whereas for immigrant men it was 68 hours (Table 6). The average for women workers, immigrant or Canadian-born, was about 42 hours. There was also no significant difference in the average number of courses.

Similarly, there were no significant differences between immigrant and Canadian-born trainees in receiving employer support. More than 80% of training taken by immigrant men was reported to be paid for by the employer compared with 79% of training taken by non-immigrant men. The rate for immigrant women was 73% while that for Canadian-born women was 77%.

In summary, there were no meaningful differences in job-training intensity between the Canadian- and foreign-born. The primary effect of immigration status is thus related to the likelihood of participation in training.

Age, sex, and income are factors linked to training

To identify specific demographic or labour market factors affecting job training, additional regression analyses were estimated for immigrant and Canadian-born employees. Each model included demographic, job and workplace factors to help understand the particular effects of each condition on their participation in job-related training and employer-supported training.[5] This section examines whether such factors have different effects for immigrants and the Canadian-born.

The effects of age and income stand out as the most important personal characteristics related to training. Among female immigrants, those from age 45 to 64 were more likely to receive training than those from 18 to 24 (Table 7). This finding is consistent with research suggesting that women in general receive less training especially early in their careers (Hum and Simpson 2003). Although the

Table 6 Intensitiy of job-training among training participants

	Men		Women	
	Canadian-born	Immi-grants	Canadian-born	Immi-grants
	%			
Training hours				
Less than 10 hours	14.3	12.1 E	21.3	23.2
10 to 29 hours	31.6	29.4	36.7	36.2
30 to 49 hours	24.4	24.8	21.8	17.1
50 or more hours	29.7	33.8	20.2	23.5
Average hours	55.9	68.3 E	42.1	41.9
Number of courses				
1 course	36.0	39.0	32.7	36.5
2 courses	26.3	24.2	26.5	22.9
3 or more courses	37.8	36.8	40.8	40.6
Average	2.6	2.6	2.7	2.8
Employer support				
Any employer support	84.8	81.3	81.4	77.4
Monetary support	79.3	80.5	76.6	72.7

Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

age effect also exists for non-immigrant women, the gap in training due to age is much smaller among Canadian-born women.

Among men, immigrant workers from age 25 to 44 were more likely to receive job training than their older colleagues. Training participation among immigrant men seems to be more concentrated for the core working-age group than for Canadian-born workers.

Low personal income was related to a lower probability of training for both immigrant and non-immigrant employees. Compared with immigrant women with the highest personal income[6] ($100,000 or more), those in the lowest income group (under $25,000) were much less likely to undertake job training. Part of the reason for this lower training rate among low-income individuals is associated with the fact that opportunities for training and skill development are an important indicator of job quality (Canadian Policy Research Networks 2011). Those in high-paying jobs tend to have more job-training opportunities.

Unlike the situation for Canadian-born workers, the effect of education level on job training is negligible for both male and female immigrant employees when job and workplace characteristics are taken into consideration. Notably, when the occupational skill level was entered in the models, the significance of education disappeared for immigrants but not the Canadian-born.

Marital status had no effect on access to training for immigrant employees. This differs from other studies showing that married women tend to receive less training throughout their careers than other women (Hum and Simpson 2003).

Although other studies have highlighted the importance of language fluency (Hum and Simpson 2003), speaking a language other than English or French in the home did not have a significant effect on training.

Skilled workers receive more training

When controls are in place for demographic and labour market characteristics, the occupational skill level (HRSDC 2006) has a persistent effect on the probability of receiving job training for immigrants and non-immigrants alike. Compared with immigrant workers in occupations requiring a university education, employees in occupations requiring a high school education or less were much less likely to receive job-related training. According to Altonji and Speltzer (1991), the incidence of training increases with the verbal, math, and clerical skill requirements of an occupation and decreases with manual skill requirements.

Among immigrant workers, the probability of receiving job training for permanent workers and other workers did not differ significantly. However, among the Canadian-born, permanent workers were more likely to receive training than non-permanent employees.

Incidence of training highest in large firms

Among immigrants, men and women working in firms with more than 500 employees were more likely to receive training than those in firms with less than 20 employees. A similar training gap existed for the Canadian-born in firms with less than 20 employees.

Table 7 Odds of predicted probability of participating in job-related training for immigrant employees

	Canadian-born		Immigrants	
	Men	Women	Men	Women
	odds ratio			
Sociodemographic characteristics[1]				
Age				
18 to 24	1.01	0.81*	1.03	0.24*
25 to 44	1.07	0.95	1.27*	0.86
45 to 64 (ref.)	ref.	ref.	ref.	ref.
Personal income				
Under $25,000	0.35*	0.50*	0.50*	0.29*
$25,000 to $49,999	0.66*	0.74*	0.60	0.32
$50,000 to $75,999	0.76*	0.87	0.97	0.40
$75,000 to $99,999	0.94	0.94	1.20	0.53
$100,000 or more (ref.)	ref.	ref.	ref.	ref.
Education level				
Less than high school graduation	0.79*	0.46*	0.99	0.83
High school diploma or its equivalent	0.81*	0.79*	0.80	0.89
Postsecondary education degree, diploma or certificate (ref.)	ref.	ref.	ref.	ref.
Job characteristics[2]				
Terms of employment				
Permanent	1.11*	1.13*	1.21	0.91
Non permanent (ref.)	ref.	ref.	ref.	ref.
Occupation by skill level				
Management	1.06	0.99	0.95	1.03
Occupations requiring university education (ref.)	ref.	ref.	ref.	ref.
Occupations requiring college education or apprenticeship	0.89*	0.83*	0.82	0.91
Occupations requiring high school education or less	0.77*	0.63*	0.44*	0.55*
Workplace characteritics				
Job sector				
Public sector	1.19*	1.17*	1.28	1.00
Private sector (ref.)	ref.	ref.	ref.	ref.
Firm size				
Less than 20 employees	0.85*	0.85*	0.67*	0.74*
20 to 99 employees	0.93	0.91	0.70*	0.94
100 to 500 employees	0.95	0.95	0.68*	0.83
Over 500 employees (ref.)	ref.	ref.	ref.	ref.
Industry				
Goods-producing (ref.)	ref.	ref.	ref.	ref.
Service-producing	0.99	1.10	1.08	1.23*

* significantly different from the reference group (ref.) at the 5% level
1. Other variables controlled for are marital status, visible minority status, language spoken most often at home, and geographic region.
2. Other variables controlled for are working hours, unionization and job tenure.
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

For immigrant men, employees of mid-sized firms also received less training than their counterparts in larger firms, which was not the case among Canadian-born women or men. Larger firms tend to have a greater incentive to train employees because they can pool training risks (Holtmann and Idson 1991), whereas smaller companies may have difficulty sparing resources for training when meeting the bottom line is a priority (Leckie et al. 2001).

The incidence of training was significantly higher in the public sector for Canadian-born men and women, but not immigrants. On the other hand, immigrant women working in services were more likely to have received training than those in goods-producing industries—a distinction that wasn't noted among the Canadian-born.

Barriers to training

The ASETS asked respondents whether there was training that they wanted to take, but did not, and whether there was training they needed to take, but did not. Having either the need or the desire to take training can be considered a proxy for being willing or ready to engage in a training activity (Knighton et al. 2009). In this analysis, these two groups and their reasons for not training are combined in order to examine perceived barriers to job training.

Three main types of barriers to participation in job-related training have been identified as situational, institutional and dispositional (Sussman 2002). Situational barriers arise from one's situation in life at a given time—too busy at work, financial constraints, family responsibilities or lack of child care, and language or health problems. Institutional barriers consist of established practices and procedures that exclude or discourage participation, such as high tuition fees, entrance requirements, limited course offerings and courses offered at inconvenient times or locations. Dispositional barriers involve attitudes and opinions towards learning, as well as perceptions of oneself as a learner (Cross 1981).

Compared with their Canadian-born counterparts, immigrant employees were more likely to perceive the presence of barriers to training access. Among immigrant women, 35% reported barriers compared to 30% of Canadian-born women (Table 8). Similarly, 25% of non-immigrant men and 31% of immigrant men perceived some barriers to training.

Situational barriers were more frequently reported among immigrant employees than Canadian-born workers. Among immigrant women who reported training barriers, about three-fourths indicated that their perceived barriers were situational. In particular, significantly more immigrant workers than their Canadian-born counterparts reported that their needs for job training were unmet due to family responsibilities,[7] conflicts with work and financial constraints.

Conclusion

Job-related training is an important aspect of economic integration for immigrants since they may be challenged by differences in language, culture and labour market networks. Moreover, they may also encounter difficulties getting their foreign credentials recognized in the workplace.

This study found that immigrant workers were significantly less likely to receive training than their Canadian-born counterparts. Even after controls were in place for demographic and labour market factors, the training rate for immigrant men and women remained lower than the corresponding rates for Canadian-born workers. Training rates were even lower among family-class immigrants, i.e., those who arrived as adults within the

Table 8 Training barriers perceived by Canadian-born and immigrant employees

	Men		Women	
	Canadian-born	Immigrants	Canadian-born	Immigrants
	%			
Barriers perceived	**25.1**	**30.5***	**29.6**	**34.6***
Types of barriers				
Situational barriers	60.2	68.8*	68.8	73.9*
Conflict with work schedule	29.7	34.9	29.3	25.5
Family responsibilities	18.4	28.8*	31.7	37.8*
Need to work	30.9	36.7*	30.1	29.7
Too expensive	17.4	22.7*	27.4	29.9
Couldn't get a loan	2.3	3.3E	2.6	F
Health reasons	1.7	F	3.3	F
Institutional barriers	24.5	25.2	27.0	26.0
Couldn't find the information	3.4	6.3*E	3.2	6.3*E
Do not have the prerequisites	3.7	6.0E	3.9	5.0E
No employer support	8.5	7.2E	7.6	7.2
Inconvenient time	12.3	10.5	15.2	14.2
Inconvenient place	6.9	6.9E	10.2	8.5E
Dispositional barriers	25.1	25.5	22.7	19.5
Not sure it is worth it	10.8	10.3	8.6	8.3E
No confidence/interest/motivation	16.5	18.7	16.3	13.3
Other	22.3	15.9*	17.4	16.0

* significantly different from the Canadian-born population at the 5% level
Note: Multiple answers were allowed.
Source: Statistics Canada, Access and Support to Education and Training Survey, 2008.

past 10 years from countries other than the United States and northern and western European countries, and those who had not yet obtained their citizenship.

Among immigrants, workers with low personal income tend to receive less job-related training, even after controls are in place for other factors. Those working in lower-skilled jobs or small workplaces were also less likely to take training. Finally, women in goods-producing industries had a lower training rate than women in service industries.

Compared with Canadian-born employees, a greater proportion of immigrant workers identified situational factors as barriers to job-related training. Such factors include family responsibilities and financial constraints.

Immigrant employees who did participate in training reported similar levels of employer support and satisfaction with training to Canadian-born workers. And among those who took training, the intensity did not differ between foreign- and Canadian-born employees. Moreover, both groups reported similar goals and job-training subjects.

Thus immigrants received less training overall than the Canadian-born, even after controls were in place for individual, job and workplace characteristics. Once they do receive training, immigrants report similar benefits to their Canadian-born counterparts.

Perspectives

Notes

1. Their participation is lower than that of not only the Canadian-born, but also immigrants who arrive as children (Hum and Simpson 2003).
2. Although some studies combined the two groups for analysis (Underhill 2006 and Sussman 2002), the two components of job-related training were not combined in this analysis given that they represent two different concepts.
3. If a respondent was enrolled in more than one job-related course, which occurred for 65% of participants, the 2008 ASETS randomly selected and asked about one course.
4. Factors controlled for in the regression analyses include the following sociodemographic factors: age, education level, household income, ethnic origin, marital status, language spoken at home, and geographic region. They include the following job factors: job tenure, full-time/part-time, terms of employment (permanent or not), unionization, and occupation. Also included are the following workplace factors: firm size, job sector (public/private), and industry.
5. Since similar results were found for both job-related and employer-supported training, only the results for the former are presented. Detailed results for employer-supported training can be obtained from the author.
6. As the information on earnings is not available in ASETS, personal income is used for analysis.
7. An additional regression analysis on perception of barriers to training access indicated that immigrant women with dependent children were more likely to report barriers than women with no children.

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We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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What's new?

Recent reports and studies

From Statistics Canada

Debt and family type in Canada

This article explores rising levels of household debt over the past 40 years, using National Accounts data. It also uses data from the 2009 Canadian Financial Capability Survey to examine which types of families are most likely to experience high levels of debt.

Real household debt more than doubled between 1984 and 2009, largely as a result of falling interest rates. The debt-to-after-tax income ratio for households increased to 148% by 2009, compared to 93% in 1990.

Both lone parent and couple families with children were more likely to have higher debt-to-service ratios than couples without children and unattached individuals. People 50 to 64 were less likely to have high debt than younger Canadians, while factors influencing higher debt-to-asset ratios included being born outside of Canada, lower household income, and living in large centres with high housing costs.

For more on this subject, see the full article "Debt and family type in Canada," *Canadian Social Trends,* April 2011.

Competing priorities: Education and retirement saving behaviours

Using data from the 2009 Canadian Financial Capability Survey, this article examines who saves for their children's postsecondary education and what methods they use to do so.

In 2009, 70% of parents indicated that they were currently saving or had saved for their children's post-secondary education. Of these, two-thirds of parents used Registered Education Savings Plans.

Parents' income, educational attainment and province are examined with respect to savings, as is their need to save for retirement at the same time as for their children's education. Six out of 10 parents were saving for their children's education and saving for retirement at the same time. Only 1 in 10 was saving for neither. Results showed that as income increased, so did saving for both plans.

To view this article, see "Competing priorities: Education and retirement saving behaviours of Canadian families," *Education Matters,* May 2011.

Income management strategies of older couples

Using the 2007 General Social survey, this study examines how older couples—in which at least one spouse or partner is age 45 or older—manage their incomes. The three strategies examined were allocative, where one spouse manages the finances and allocates a share to the other; pooled, in which both partners pool their incomes; and separate, in which the partners keep their incomes mostly or completely separate.

The study found that over one-half of older Canadian couples pooled their resources, with the remainder split almost evenly between allocative and separate finance strategies. Various socioeconomic characteristics tend to correlate with which strategies are more often used; for example, separate income management was more often used in common-law relationships, those of shorter duration, where children were not present, or when one or both partners had a postsecondary education. Second marriages and blended families also influenced which strategy was used.

For more information on this subject, refer to *The Income Management Strategies of Older Couples in Canada,* Analytical Studies Branch Research Paper Series, Statistics Canada, June 2011.

Small, medium and large businesses in the Canadian economy

This paper sheds light on the contribution of small, medium-sized and large businesses to the Canadian economy in 2005, by examining the shares of business-sector GDP produced by these groups.

Large firms with 500 or more employees accounted for 45.7% of the business-sector GDP, and tended to be in the businesses of utilities, information, mining and oil and gas, manufacturing, transportation and warehousing. Small and medium-sized businesses made up more than one-half of the GDP in most of the 17 industries used in the study, which included agriculture, accommodation and food services, wholesale, professional services, administrative, arts and entertainment, finance, and retail.

For additional information, see *Small, Medium-sized and Large Businesses in the Canadian Economy:* Measuring Their Contribution to Gross Domestic Product in 2005, Economic Analysis Series, Statistics Canada, May 2011.

Labour Force Survey

Employment was little changed in August, following three months of consecutive increases. In the past year, employment has grown by 1.5%. During this time, the private sector registered an increase of 2.2%, public sector employment grew by 0.9%, and the number of self-employed people declined by 0.7%. See the August 5, 2011, issue of *The Daily* on Statistics Canada's website (www.statcan.gc.ca) for details.

Manufacturing: The Year 2010 in Review

Canada's manufacturing sector finished 2010 with widespread growth, reversing the 2009 downturns. Manufacturing sales increased 8.9%, the largest single year advance since 2000, recouping 40% of the previous year's decrease.

The three manufacturing industries with the largest increases were transportation equipment, petroleum and coal, and primary metal manufacturing. Among the industries surveyed, 19 out of 21 reported growth, as did 7 out of 10 provinces. The first quarter of 2011 continues this trend.

For more information see *Manufacturing: The Year 2010 in Review,* Analysis in Brief, June 2011.

Retail trade

According to the Retail Trade Survey, retail sales in May edged up 0.1% to $37.5 billion. Higher sales in 7 of 11 subsectors were mostly offset by declines at motor vehicle and parts dealers and at food and beverage stores. Gasoline station sales were up 1.1% in May, a fourth consecutive increase. In terms of volume, sales were unchanged from last month.

To learn more, see the July 22, 2011, issue of *The Daily* on Statistics Canada's website (www.statcan.gc.ca).

Participation of adult workers in job-related training

The 2008 Access and Support to Education and Training Survey was used to determine the participation of adult workers age 25 to 64 in formal, job-related training activities or education. The participation rates were then analyzed in relation to demographic characteristics, occupation, employer characteristics, training objectives, and learning obstacles.

Participation by women was higher in every age group. Paid workers were more likely to take part in job-related training than the self-employed. Also, more unionized women participated in job-related training or education than unionized men, which may be due to a higher proportion of women employed in health occupations, and social sciences, education and government service occupations. These occupations are heavily unionized and have high rates of participation in job-related training activities or education.

Younger workers were more likely to indicate they were taking training to get a promotion or to change jobs, while older workers wanted to improve their job performance or gain knowledge.

For additional details, refer to "A glance at the participation of adult workers in formal, job-related training activities or education in 2008," *Education Matters*, Statistics Canada, June 2011.

From other organizations

Pensions at a glance 2011

The average pensionable age by 2050 in OECD countries will increase to 65 for both men and women. Since life expectancy is rising even faster, older adults' retirement years will continue to rise. This is the case for 29 of the 34 OECD countries, including Canada. Improving incentives to continue working is one way to ensure pension packages, but sufficient demand for older workers remains an issue. In this issue of *Pensions at a glance 2011*, national pension system indicators are provided for all OECD countries. In addition, issues surrounding life expectancy, retirement, and older workers are discussed.

For more information, see www.oecd.org/els/social/pensions/PAG.

Taxing wages report

Canada has a relatively low average tax wedge for every family type among OECD countries in 2010. The tax wedge is defined as "income taxes plus social security contributions, minus cash transfer as a percentage of total labour cost."

Single parents with 2 children benefit the most from a lower tax wedge as they in fact have a negative tax, meaning they receive more in government transfers than they pay. That's 24% lower than the OECD average for their family type.

For details, see www.oecd.org/ctp/taxingwages.

Tensions from the two-speed recovery

The world real Gross Domestic Product (GDP) is expected to grow by 4.5% in both 2011 and 2012, according to the latest forecasts from the International Monetary Fund (IMF). The recovery is gaining strength but unemployment remains high in advanced economies. Financial conditions have inproved but remain fragile. Concerns include overheated emerging economies, weak real estate markets, and rising food prices, as commodity increases are passed on. Moreover, there is still much work to be done on reforming the global financial system.

For more on this subject, see http://www.imf.org/external/pubs/ft/weo/2011/01/index.htm.

Upcoming events

Socio-economic conference, September 26-27, 2011

Palais des congrès de Gatineau
200, promenade du Portage
Gatineau (Hull sector), Quebec

Statistics Canada's socio-economic conference provides an annual forum for empirical research focusing on issues of concern to Canadian decision-makers. The conference targets studies discussing emerging economic trends and their underlying causes; the ability of various groups to participate in society and the economy; and recent research on health, justice and the environment. The Socio-Economic Conference 2011 will include plenary sessions and state-of-the-art lectures featuring invited guest speakers who are leading authorities in their fields.

For the preliminary program, see http://www.statcan.gc.ca/conferences/socioecon2011/program-eng.htm.

Perspectives

In the works

Some of the topics in upcoming issues

Consumer debt in Canada

The article will examine the growth and the changing composition of consumer debt in Canada between 1982 and 2008. It will also highlight the differences in financial liability (i.e. debt payment as % of disposable income), spending, and saving patterns between households owing consumer debt only, and those owing both consumer and mortgage debt. Most of the analysis is based on the 2008 Survey of Household Spending.

Job-related training by older workers ages 55 to 64

This paper will examine the factors influencing job-related training on the retention of older workers in the labour force, including current and changing trends, barriers to training, and socio-demographic issues. The data source used will be the 2008 Access and Support to Education and Training Survey.

The evolution of wealth over the life-cycle

This paper will study the evolution of the financial wealth of Canadians over their life-cycle by using a synthetic cohort approach on a variety of cross-sectional wealth data sources.

Labour market allocation after the downturn

Using the most recent sources of labour data, this paper will study which areas and groups have been most impacted by employment changes in the aftermath of the recent downturn. It will also provide comparisons with the previous downturns.

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PERSPECTIVES

ON LABOUR AND INCOME

WINTER 2011
Vol. 23, No. 4

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Winter 2011 Vol. 23, No. 4

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Perspectives on Labour and Income (Catalogue no. 75-001-XPE; aussi disponible en français: *L'emploi et le revenu en perspective*, nº 75-001-XPF au catalogue) is published quarterly by authority of the Minister responsible for Statistics Canada. ©Minister of Industry 2011. ISSN: 0840-8750.

PRICE: CAN $20.00 per issue, CAN $63.00 for a one-year subscription.

Shipping charges outside Canada:

	Single issue	Annual subscription
United States	CAN $ 6.00	CAN $24.00
Other countries	CAN $10.00	CAN $40.00

All prices exclude sales taxes.

Indexed in the *Canadian Index, Canadian Periodical Index, P.A.I.S. International, Sociological Abstracts, Econlit, Canadian Business and Current Affairs* and *Employee Benefits Infosource.* Also indexed in French in *L'Index de l'Actualité* and *Point de Repère.*

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Highlights

In this issue

The financial well-being of the self-employed ... p. 5

- The median household income of the self-employed as a group was 81% that of paid employees in 2009. However, income levels varied across self-employment categories. By most measures, the self-employed owners of incorporated businesses reported a larger household income than paid employees, while the unincorporated had a lower median income.

- Because the personal finances of the self-employed often interact with business finances, it is important to examine other indicators of financial well-being, including wealth accumulation.

- The self-employed were wealthier than paid employees. At $520,000, the median net worth of the self-employed—the difference between household assets and liabilities—was 2.7 times that of paid employees ($195,000). The self-employed not only reported higher levels of business assets, but also higher tangible assets.

- With greater wealth to manage, the self-employed were more likely to be knowledgeable about finances, having had more correct answers, on average, to a series of questions used to gauge financial capability.

- Although fewer of the self-employed reported that they were financially preparing for retirement, the majority (about 75%) were fairly or very confident that their retirement income would be sufficient to maintain their living standards. This compared to a figure of 69% among paid employees.

- At equal income levels, household spending differed little between paid workers and the self-employed.

Delayed retirement: A new trend? ... p. 17

- The employment rate of individuals 55 or over has grown noticeably in recent years. From 1997 to 2010, it rose from 30.5% to 39.4% for men and from 15.8% to 28.6% for women.

- This strong growth seems at odds with the stability of the average retirement age since 2004. The apparent contradiction is in part the result of the influence of the age structure of workers on the average retirement age, making the average retirement age a poor indicator of recent changes in retirement behaviour.

- A more representative indicator of the retirement decisions of Canadians can be constructed on the basis of methods used to calculate life expectancy.

- This expected working-life indicator shows a significant increase in delayed retirement starting in the mid-1990s. In 2008, a 50-year-old Canadian could expect to be working for 16 years, compared to 14 years in 1977.

- The recent trend to delayed retirement also stabilized the expected length of retirement. The working-life tables show that the expected length of retirement increased from 1977 to the mid-1990s and has since remained relatively stable. The expected length of retirement expressed as a percentage of total life expectancy starting at age 50 was about the same in 2008 as in 1977.

Regional economic shocks and migration ... p. 30

- Residents of census agglomerations (CAs) or census metropolitan areas (CMAs) with less than 500,000 residents were much more likely to migrate than residents of large metropolitan centres. In 2008, for example, the migration rate for those age 20 to 54 living in a CA with 10,000 to 19,999 residents was 7.9%, compared to 2.3% for persons the same age living in a CMA with 500,000 or more residents.

- From 2000 to 2008, people living in a region where the unemployment rate went up by one percentage point in relation to the national average between two years had virtually the same probability of migration as people in regions where the unemployment rate had remained close to the national average in the same two years.

- Similarly, individuals living in a region where hourly earnings had declined by $1 per hour in relation to the national average between two years were only slightly more likely to migrate than those living in a region where regional average hourly earnings remained the same as in the rest of the country during the same period.

- However, people who experienced a deterioration of their personal economic situation in relation to others were much more likely to migrate than persons whose economic situation had remained unchanged. Thus, individuals whose income had decreased by 30% or more over two years were 82% more likely to leave their region than those whose income had not changed.

- Unlike other Canadians, recent immigrants living in a region where unemployment had increased by one percentage point in relation to the national average between two given years were 10% more likely to migrate than immigrants living in a region where the unemployment rate had remained the same over the same two years.

What's new? ... p. 43

- **From Statistics Canada**

  Lay-offs during recessions

  Commuting to work

  Canadian labour force in 2031

  Self-employment dynamics

  Main sources of stress among workers

- **From other organizations**

  OECD Employment Outlook 2011

  How's life? Measuring well-being

  Charting International Labor Comparisons

The financial well-being of the self-employed

Sébastien LaRochelle-Côté and Sharanjit Uppal

In 2010, about 2.7 million Canadians were self-employed in their main job, accounting for 16% of the workforce.[1,2] The self-employed range from working owners of large, incorporated businesses to part-time service providers.

The diversity of this group reflects various motivations for entering self-employment. Some will carefully evaluate their asset-building potential, retirement preparation, access to credit, taxes, and so on, before becoming entrepreneurs (Verheul et al. 2001). Others may be attracted to the independence or flexibility of self-employment, while some will be motivated by the lack of paid employment opportunities (Hou and Wang 2011). Indeed, self-employment tends to increase during economic downturns (LaRochelle-Côté 2010). As a result of these differing circumstances and motivations, the financial rewards of self-employment are likely to vary widely.

A comprehensive look at the financial situation of the self-employed remains a gap in Canadian research. This gap is due in part to data constraints, since there are relatively few sources of comprehensive information on household finances. Conceptual difficulties also exist as many of the self-employed have sources of work-related income that are not typically collected for paid jobs.

This paper examines how the income, wealth and spending of the self-employed differ from that of paid employees. It focuses on those who are in their prime working years, beginning with a look at household income differences between the self-employed and paid employees using 2009 data from the Survey of Labour and Income Dynamics (SLID). Next it focuses on differences in household wealth and retirement preparation, based on the 2009 Canadian Financial Capability Survey (CFCS). It also compares differences in household consumption patterns by using the 2008 Survey of Household Spending (SHS) (see *Data sources and definitions*).

Income

Individual income is not necessarily the optimal indicator of the financial well-being of individuals. Rather, household or family income is typically regarded as a better indicator of financial well-being, since the benefits of financial resources are most often shared among household or family members.

Overall, average household income differed little between self-employed and paid employees (since SLID includes information from all household members, households were classified on the basis of the working status of their major income earner). In 2009, both averaged just over $85,000 in household income (Table 1). The median income of the self-employed, however, was about 19% lower than the household income of paid employees.

One major distinction among the self-employed is between those who own incorporated businesses, and those who do not. Incorporated businesses are separate legal entities from their owners—comprising enterprises such as retail stores, restaurants, or manufacturing operations—which may be large or small. Unincorporated businesses are typically small (85% have no other employees) and are often referred to as 'own account' self-employed.

According to income measures, incorporated owners had higher household incomes than paid employees, who in turn had higher incomes than the non-incorporated self-employed. Looking at market income (total household income excluding government

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Data sources and definitions

Data are drawn from three surveys: the 2009 Survey of Labour and Income Dynamics (SLID), the 2008 Survey of Household Spending (SHS), and the 2009 Canadian Financial Capability Survey (CFCS). Although these surveys differ in scope and content, in each the self-employed are defined as those who reported that they were self-employed in their main job or said that self-employment constituted their main source of income during the survey reference period. All three surveys provide similar estimates for the number and proportionate size of the self-employed population. Among those age 25 to 59, the self-employed comprised 16.0% of the workforce in the SHS, 15.8% in SLID and 14.1% in the CFCS.

The **Survey of Labour and Income Dynamics** (SLID) is a longitudinal survey composed of six-year panels with a cross-sectional component. Cross-sectional data from 2009 are used in this study.

- **Average hours worked** are the total paid hours in all jobs during the reference year.
- **Average weeks worked** are the total number of weeks individuals were employed during the reference year.
- **Capital gains** are total capital gains, excluding losses.
- **Investment income** includes the actual amount of dividends (not just the taxable amount), interest and other investment income (for example, net partnership income and net rental income).
- **Paid employee** is a paid worker working for wages, salary, tips or commission.
- **Self-employed** includes individuals who had a job in the reference week and belonged to one of the following categories: self-employed without paid help, incorporated; self-employed with paid help, incorporated; self-employed without paid help, not incorporated; or self-employed with paid help, not incorporated.
- **Self-employment income** is net income (including both farm and non-farm) from self-employment.
- **Total annual income** is the sum of income before taxes from all sources. It consists of two main components: market income and government transfers.
- **Total government transfers** include all federal and provincial government transfers.
- **Wages and salaries** are from all jobs, before deductions, including tips and commissions.

The **Canadian Financial Capability Survey** (CFCS) is a cross-sectional survey conducted between February and May 2009. The target population consisted of Canadians age 18 and over in the 10 provinces. The survey collected information on assets and liabilities and on Canadians' knowledge, abilities and behaviour concerning financial decision-making. The information on assets and liabilities is self-reported.

- **Business assets** include agricultural property, machinery and equipment; wholly or partially owned business property and assets; and copyrights, patents and royalties.
- **Confidence in retirement income** is based on the question "Taking all of the various sources of retirement income into account for your household (including government sources as well as personal and occupational pensions and provisions), how confident are you that your household income in retirement will give you the standard of living you hope for?"
- **Other financial assets** include cash savings; investments (stocks, bonds, term deposits, GICs, non-RRSP mutual funds); registered disability savings plans; tax-free savings plans; and private pensions.
- **RESPs** are Registered Education Saving Plans.
- **RRSPs** are Registered Retirement Savings Plans.
- **Tangible assets** include house or property (in or out of Canada, including principal residence), vehicles; collections, antiques, jewels, and other valuables; and home furnishings.
- **Total debt and liabilities** include mortgages (including principal residence and other mortgages); student loans; payday loans; and outstanding balances on credit cards and lines of credit.

The **Survey of Household Spending** (SHS) is carried out annually in the 10 provinces. Data for the territories are available for 1998, 1999 and every second year thereafter. Data from 2008 are used in this study. The main purpose of the survey is to obtain detailed information about household spending during the reference year (the previous calendar year). Information is also collected on dwelling characteristics and household equipment.

transfers), the median household income of the incorporated was $75,600, that of the unincorporated was $37,900, while that of paid employees was $67,000. The sources of income also differ between the incorporated and non-incorporated self-employed (see *Individual income of the self-employed*).

Since the self-employed may reap varying rewards based on their inherent competencies as entrepreneurs and changing business conditions, their income may be more dispersed than that of paid workers. Several measures of dispersion can be applied to test this hypothesis. The P75/P25 is the ratio of the income of a household at the 75th percentile divided by the income

Table 1 Household income - self-employed and paid employees, age 25 to 59

	Paid employees	Self-employed Total	Incorporated	Unincorporated
		$		
Total household income				
Average	86,600	87,700	107,800*	73,900*
Median	72,600	58,800*	78,900	46,100*
Household market income				
Average	80,900	81,500	103,100*	66,700*
Median	67,000	54,500*	75,600*	37,900*
Dispersion measures[1]		ratio		
P90/P50	2.0	3.2	2.6	3.9
P75/P25	2.2	3.8	3.0	3.7
P50/P25	1.5	1.9	1.9	1.8

* significantly different from paid employees at the 5% level
1. Based on average adult equivalent (AEA) income measures.
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2009.

of a household at the 25th percentile. A P75/P25 ratio of 2.0, for instance, would indicate that a household at the 75th income percentile had twice the income of a household at the 25th percentile. Similarly, the P90/P50 is the ratio of income at the 90th percentile compared to the median income, and is therefore a measure of dispersion in the top half of the distribution. Conversely, the P50/P25 can provide a sense of the dispersion between the middle and the lower part of the distribution. Higher scores for each statistic

Imputing consumption flows for housing and automobile expenditures

Because purchases of durable items are infrequent and housing expenditures can vary over the life cycle, a measure of consumption is considered more accurate if it can be estimated to account for the flow of service over time that is provided by durables and housing expenditures. This paper followed the approach used in Lafrance and LaRochelle-Côté (2011).

Housing

One commonly used approach is to compute 'imputed rents' for homeowners. This can be done by estimating a semilog equation with measures of location and quality for the dwelling (for instance, number of rooms) as independent variables, much in the spirit of Brown and Lafrance (2010) where rent is the value of annual serviced rental payments incurred by the renter, including utilities (e.g., water, electricity and fuel). The right-hand side variables measure the quality of the dwelling (i.e., the number of rooms—including a quadratic term—and bathrooms in the dwelling and the type of dwelling), while p takes the province in which the dwelling is located into account. The predicted values from each model are used to calculate imputed rents for owner-occupied housing. These values include utilities (e.g., water, fuel and electricity) that would normally be associated with renters, which may not necessarily accord with the utility expenditures of homeowners. The share of utilities as a proportion of rent is calculated for tenants by dwelling type, as expenditures on utilities vary by dwelling type.

These shares are then applied to the predicted rents for owner-occupied housing to determine the proportion of imputed rents that is accounted for by expenditures on utilities. The difference between these expenditures and actual expenditures on utilities is subtracted from the predicted rental values to obtain total shelter costs for homeowners.

Vehicles

This paper uses the method suggested in Pendakur (1998) to derive an imputed consumption flow for purchased transportation vehicles. The first step is to estimate a probit model among families with car operation expenses in excess of $100. In this model, the probability of purchasing a car is modelled as a function of variables indicative of a household's financial capacity: family size, net income, net income squared and province. The predicted probabilities are then multiplied by predicted purchase prices obtained from another model of car purchases. The total consumption flow from transportation is then equal to the imputed car purchase consumption flow, plus automobile operation expenses (e.g., gas, batteries and tires) and public transportation expenses.

indicate greater dispersion. Fundamentally, these three measures highlight the dispersion among middle-, upper- and lower-income earners.[3] According to all three measures, income dispersion was greater among self-employed, particularly the unincorporated. The P75/P25 ratio was 2.2 for paid employees, 3.0 for the incorporated self-employed, and 3.7 for the unincorporated. The P90/P50 ratio was also higher for the self-employed: 2.6 for the incorporated and 3.9 for the unincorporated compared to 2.0 for paid employees. At the lower end, the dispersion was not as large among the self-employed, but was still larger than among paid employees.

Wealth

Since the income stream varies more among the self-employed, and since they are less likely than paid workers to have pensions or supplemental health insurance, wealth accumulation is particularly important for this group (Verheul et al. 2001). Wealth could act as a buffer against income fluctuations due to business or personal circumstances, finance further business opportunities, or play a part in planning for retirement, among other uses.

The information in this section is from the 2009 Canadian Financial Capability Survey (CFCS). Although not primarily a wealth survey, the CFCS did collect self-reported information on the main categories of assets and debts at the household level.[4] While it is possible to classify survey respondents based on their working status, the CFCS did not distinguish the incorporated self-employed from the unincorporated.[5,6] Results are therefore shown for all of the self-employed.

Table 2 Average and median wealth measures – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
	'000 ($)	
Tangible assets	317.3	589.4*
Financial assets	122.5	217.8*
RRSP	56.0	93.6*
RESP	3.5	5.0*
Other	63.0	119.2*
Business assets	44.2	373.0*
Average total assets	**484.0**	**1,180.3***
Average total debts and liabilities	109.2	156.6*
Average total net worth	374.8	1,023.7*
Median net worth	195.0	520.0*

* significantly different at the 5% level
Note: Income figures are rounded to the nearest 100.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

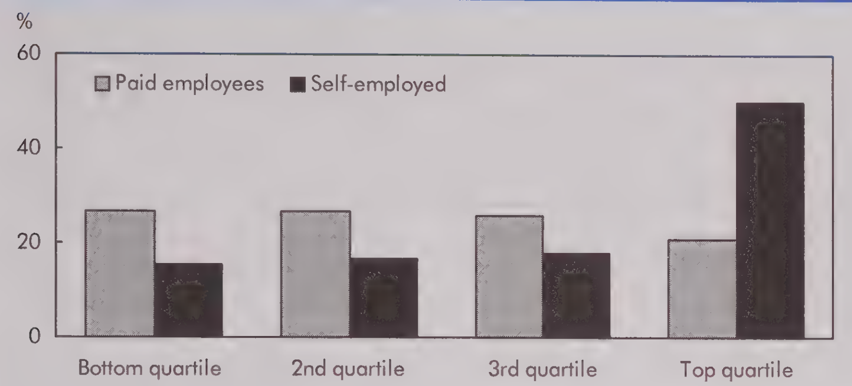
The self-employed were wealthier than paid employees. In 2009, the average net worth of the self-employed was 2.7 times that of paid employees (Table 2). Household assets averaged about $1.2 million for the self-employed and their debts about $157,000. In comparison, paid employees reported an average of $480,000 in assets and $110,000 in debts.

Most of the difference in average assets was due to differences in tangible and business assets. Tangible assets are non-financial assets that are not normally used for business and include housing, furniture, vehicles and other valuables. For the vast majority of individuals, tangible assets consist mainly of housing-related items and vehicles.[7] The self-employed reported an average of $589,000 in tangible assets. The corresponding figure for paid employees was $317,000. Not surprisingly, business assets[8] were significantly higher among the self-employed ($373,000) than among paid employees ($44,000).[9]

The self-employed also had higher average financial assets—$218,000 versus $123,000 for paid employees.[10] Operating a business often requires more money to facilitate transactions, but some of that difference could also be linked to differences in retirement preparation as the self-employed reported higher RRSP values.[11]

Looking at median values is often instructive since averages can be influenced by a small number of very wealthy individuals. However, at $520,000, the median household net worth of the self-employed was 2.7 times that of paid employees ($195,000)—the same ratio as average wealth between these groups. This means the difference between self-employed individuals and paid employees was not due to a higher concentration of wealth among the self-employed. Since they had higher median wealth, many more of the self-employed were concentrated near the top of the overall net worth distribution. More than one-half of the self-employed compared to 1 in 5 paid employees were located in the top quartile of the overall net worth distribution, roughly corresponding to those who had at least half a million dollars in net worth (Chart A).

Chart A Distribution across quartiles of household net worth



Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Conversely, about 15% of the self-employed and 27% of paid employees were in the bottom wealth quartile, which includes those who had a household net worth of about $50,000 or less. This implies that entrepreneurs are an important source of wealth creation in Canada, a fact also noted by several U.S. studies (Quadrini 1999 and 2000).

The higher median wealth of the self-employed was unaffected by adjustments for age differences between paid employees and the self-employed, and by the removal of workers in primary industries to account for the fact that agriculture workers may have relatively high farm assets.

Such results might appear counterintuitive, because the median household income of the self-employed was slightly lower than that of paid employees. However, such findings—which mirror results obtained in other U.S. studies—would be explained by the fact that many self-employed people leave funds within their companies, for reinvestment purposes, for debt servicing, or as a contingency fund (De Nardi et al. 2007). Hence, funds reinvested in their businesses can contribute to the wealth of the self-employed without increasing their income stream.

Retirement preparation

The 2009 CFCS also asked about retirement preparation. Preparing for retirement is an asset-building process to ensure that living standards can be maintained during the senior years, and is therefore an important aspect of long-term financial well-being. Since most of the self-employed are not covered by a pension plan, their retirement preparations are likely to differ from those of paid employees.

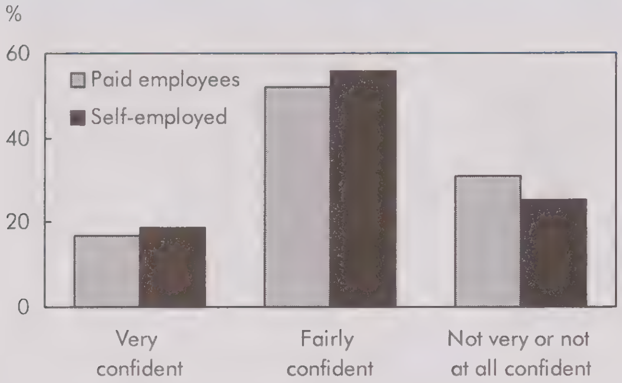
Paid employees were more likely than the self-employed to be preparing for retirement. About 85% of paid employees and 74% of the self-employed stated that they were financially preparing for retirement, either on their own or through an employer pension plan (Table 3). However, the lower percentage of self-employed individuals preparing for retirement may be linked to the fact that many of them keep working later in life.[12]

Table 3 Financial preparation for retirement – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
	%	
Financially preparing	**85.2**	**74.3***
Expected primary retirement income source	**100.0**	**100.0**
Public pension	14.7	11.8*
Occupational or workplace pension	35.4	5.6*
Personal retirement savings plan benefits	26.3	36.4*
Business	1.6	13.6*
Employment	3.5	6.1*
Personal assets or other sources	6.1	17.2*
Don't know	12.3	9.3*

* significantly different at the 5% level
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Chart B Confidence in retirement income



Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

More than one-third of paid employees expected that workplace pensions would be their primary source of retirement income. Because they are less likely to be covered by an employer-based registered pension plan, the self-employed were more likely to report that personal retirement savings, like RRSPs, would be their main source of retirement income. Another 30% of the self-employed reported that they would get retirement money from the sale of their business[13] or via personal assets and other sources. The greater reliance on their own resources for retirement planning may influence the self-employed to become more knowledgeable about finances in general (see *Financial capability scores*).

Despite the fact that they expect to rely more on their own funds to maintain their living standards in retirement, fewer of the self-employed were pessimistic about their retirement income than paid employees. About one-quarter of the self-employed and one-third of paid employees were not confident that their retirement income would give them the standard of living they desired (Chart B).

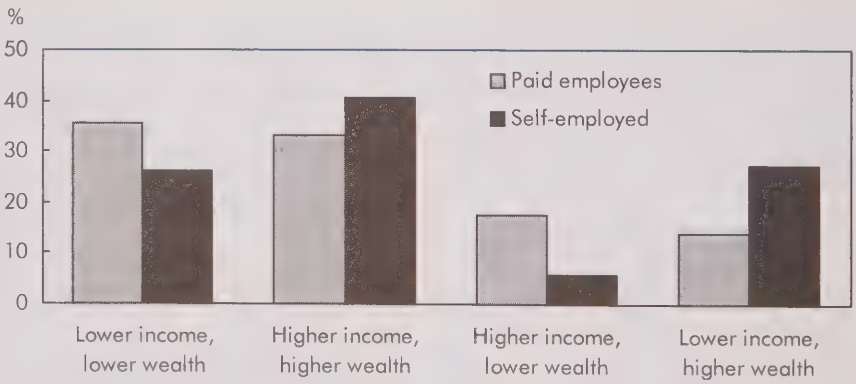
Relationship between wealth and income

Since the self-employed have greater income dispersion but also higher wealth than paid workers, the relationship between income and wealth is likely to differ between these groups. One strategy to identify these differences is to classify respondents into four categories:

- those with a household income and net worth below the population median (lower income, lower wealth)
- those with a household income and net worth above the population median (higher income, higher wealth)
- those with a household income higher than the population median, but a household net worth below the median (higher income, lower wealth)
- those with a household income lower than the population median, but a household net worth above the median (lower income, higher wealth).[14]

The distribution of paid employees and the self-employed across these four categories was quite different (Chart C). First, the self-employed were less likely than paid employees to be in the lower-income, lower-wealth category (26% for the self-employed versus 36% for paid employees) and less likely to be in the higher-income, lower-wealth category (6% for the self-employed versus 18% for paid employees).

Chart C Distribution across income and wealth categories



Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Conversely, 41% of all self-employed people were in the higher-income, higher-wealth category compared with one-third of all paid employees. Moreover, 27% of the self-employed were in the lower-income, higher-wealth group—nearly twice (14%) the percentage of paid employees. These results also held with controls in place for industry, occupation and personal characteristics.[15] This suggests that annual household income is not necessarily representative of the financial well-being of the self-employed. These differences in the distribution of income and wealth also bring up the question as to whether there are corresponding differences in the consumption patterns of the two groups.

Expenditures and consumption

Even though income may be more dispersed for the self-employed than paid employees, periods of high income and/or higher wealth may help maintain consumption levels in lean times. If this is the case, or if the self-employed expect it to be the case, their expenditures may not differ greatly from those of paid workers. In addition, the findings related to wealth indicate that the self-employed are more likely to have substantial financial assets that would enable them to smooth their expenditures across variations in income.

Data in this section come from the Survey of Household Spending (SHS).[16] In the SHS, expenditures include four categories of spending:

- gifts (money transfers to charities and individuals outside the household)
- personal security (including pension contributions, insurance and annuities)
- taxes
- consumption.

Consumption includes all goods and services that are acquired for the benefit of household members. All consumption figures have been adjusted to impute ‘consumption flows’ for housing and automobile expenditures (see *Imputing consumption flows for housing and automobile expenditures*).[17]

Since the distinction between the incorporated and unincorporated self-employed is not available in the SHS, this section focuses on the differences between paid employees and the self-employed as a whole. Households are classified as self-employed or paid workers according to the class of worker of the person who makes most of the household financial decisions. Income in this section refers to household rather than individual income since households are assumed to pool expenditures.

The households of the self-employed spent about 15% more than those of paid employees ($11,600), but their household income was also higher by about 13% (Table 4).[18] For both paid employees and the self-employed, consumption represented the largest expenditure group—more than 60% in both cases. The second largest expenditure was taxes, accounting for 23% of the total for paid workers and 22% for the self-employed. Both groups earned more than they spent—10% for paid employees and 8% for the self-employed—indicating that potential savings were similar for each group.[19]

Table 4 Average expenditures – self-employed versus paid employees, age 25 to 59

	All		Middle income[1]	
	Paid employees	Self-employed	Paid employees	Self-employed
		$		
Average total household expenditures	**79,100**	**90,800***	**72,900**	**72,300**
Consumption	54,100	63,400*	52,200	53,500
Personal security	5,700	5,700	5,500	5,000
Gifts	1,400	2,000	1,300	1,200
Taxes	18,000	19,700	14,000	12,600
Average total household income	**87,600**	**99,000***	**76,500**	**76,100**

* significantly different at the 5% level
1. Excluding individuals with before-tax income below 2/3 of the median and above 4/3 of the median.

Note: Figures are rounded to the nearest 100.
Source: Statistics Canada, Survey of Household Spending, 2008.

For a more detailed look at spending, consumption can be disaggregated into four main components: expenditures on residence and properties; transportation; food, clothing and care; and 'other,' which includes items that may be less essential for the safety and security of individuals (see Lafrance and LaRochelle-Côté 2011).

The self-employed spent more than paid employees on all components and sub-components of consumption (Table 5). However, differences were larger in the housing component, where expenses of the self-employed exceeded those of paid employees by $5,000 (26%). Expenses on food and health care and miscellaneous items were also higher for the self-employed.

The higher spending on housing translated into a slightly higher proportion of total consumption spent on residence and properties by the self-employed—38% versus 35% for paid employees. As a share of the total, the self-employed also spent proportionately less on transportation—17% versus 20%. Spending differed little for the other items and each group spent about the same proportion of their overall income on consumption.

Table 5 Detailed consumption patterns – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
	$	
Residence and properties	**19,100**	**24,100***
Shelter	11,800	15,100*
Other accommodation	1,200	1,800
Household operations	3,800	4,500*
Furnishings and equipment	2,200	2,600
Transportation	**10,600**	**10,900**
Purchased automobiles	3,800	4,000
Automobile operations	5,600	5,700
Public transportation	1,200	1,200
Food, clothing and care	**14,800**	**16,800***
Food	8,200	9,200*
Clothing	3,400	3,700
Personal care	1,400	1,400
Health	1,800	2,600*
Others	**9,600**	**11,600***
Recreation	4,700	5,800*
Reading and printed material	200	300*
Tobacco and alcohol	1,700	1,800
Miscellaneous	2,900	3,600
	%	
As a percentage of total	**100.0**	**100.0**
Residence	35.3	38.0
Transportation	19.5	17.2
Essentials	27.4	26.6
Others	17.7	18.3

* significantly different at the 5% level
Note: Figures are rounded to the nearest 100.
Source: Statistics Canada, Survey of Household Spending, 2008.

Conclusion

The self-employed represent 16% of the total Canadian workforce. Despite the necessity for the self-employed to manage fluctuations in income and, in most cases, finance their retirement without an employer pension plan, studies examining the financial well-being of the self-employed are relatively rare. Using a variety of data sources, this study examined differences between paid employees and the self-employed across a number of income, wealth, and spending indicators to provide a more comprehensive view of their financial well-being.

In 2009, both paid employees and the self-employed averaged more than $85,000 in total household income. However, this masked differences across self-employment categories. The average household income of the incorporated self-employed was 24% higher than that of paid employees. Conversely, the average household income of the unincorporated self-employed was 15% lower than that of paid employees. The household income of the self-employed was also more dispersed.

However, the self-employed were wealthier than paid employees. In 2009, the median net worth of the self-employed was 2.7 times that of paid employees. The self-employed were also relatively confident that their retirement income would suffice to maintain their living standards, even though they planned to rely more on private sources to finance their retirement than paid workers.

The joint distribution of income and wealth indicated that the lower-income self-employed generally had greater wealth at their disposal than paid workers with similar annual income. Fully 27% of the self-employed were classified as having household income below the

Individual income of the self-employed

Because owners of incorporated businesses are legally separate from their business entities, they can earn income in a variety of ways—by drawing a salary, by collecting dividends accruing to shareholders, through capital gains or through net self-employment income if they maintain a non-incorporated registered business along with their corporations.

In contrast, the unincorporated self-employed have fewer options. These businesses are not legally separate from their owners, who must report proceeds as net self-employment income.[20] Consequently, self-employment income is usually their main source of market income, although some may also report earnings from another paid job.

Overall, average individual income was slightly higher among paid employees (Table 6). In 2009, paid employees averaged $52,400 in total income, compared to $46,200 among the self-employed. As might be expected, most of the income of paid employees was from wages and salaries. The sources of income for the self-employed were more varied as they reported about $17,500 in wages and salaries, $20,600 in self-employment income, $4,400 in investment income (including dividends) and $1,100 in capital gains.

Just like household income, individual income varied significantly between the incorporated and the unincorporated. As a result, the unincorporated had 26% lower income than paid employees. At $57,800, the income of incorporated self-employed was similar to that of paid employees.[21]

The differences in total income were largely due to differences in market income, with little variation in government transfers across groups. The market income of the incorporated self-employed and of paid employees was about the same, while the market income of the unincorporated was $13,100 lower. The majority (73%) of market income earned by the unincorporated came from self-employment income, but another 16% came from wages and salaries. Income was more diffuse across sources among the incorporated, with two-thirds coming from wages and salaries, 16% from investment and capital gains (including dividends), and 18% from net self-employment income. More than 95% of the market income of paid employees came from wages and salaries.

The incorporated self-employed worked an average of 2,350 hours in 2009, compared to 1,930 hours for the unincorporated and 1,770 hours for paid employees.[22] This translated into an average hourly rate of about $24 per hour for the incorporated and just over $28 per hour for paid employees. The unincorporated self-employed earned, on average, significantly less—$20 per hour.

Table 6 Individual income sources – self-employed and paid employees, age 25 to 59

	Paid employees	Self-employed: Total	Self-employed: Incorporated	Self-employed: Unincorporated
		$		
Average total annual income	**52,400**	**46,200***	**57,800**	**38,900***
Average total market income	**50,000**	**44,400***	**56,600**	**36,900***
Wages and salaries	47,900	17,500 *	36,300*	5,800*
Self-employment income	400	20, 600 *	10,000*	27,100*
Investment income	700	4,400 *	8,600*	1,800*
Capital gains	300	1,100 *	700*	1,300*
Other income	800	900	1,000	900
Average total government transfers	**2,300**	**1,700***	**1,200***	**2,000***
Employment insurance and social assistance	1,300	500 *	400*	500*
Other	1,000	1,200 *	800*	1,500*
Median annual income (total)	**43,100**	**27,900**	**39,300**	**21,400**
		hours		
Annual work hours				
Average hours worked	1,770	2,090 *	2,350*	1,930*
Median hours worked	1,960	2,090 *	2,230*	2,090*

* significantly different from paid employees at the 5% level
Note: Income figures are rounded to the nearest 100. Hours are rounded to the nearest 10.
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2009.

Financial capability scores

A unique feature of the Canadian Financial Capability Survey is a series of 14 questions designed to test respondents' knowledge of financial principles and practices. Although there is broad recognition that financial literacy should be a component of an entrepreneur's skill set, there is little empirical evidence on the subject. Keown (2011) found differences in test scores between the self-employed and paid workers that are statistically significant at the lower and higher end of the distribution but not in the middle. Corresponding differences were found across the population of interest (Table 7). On average, the self-employed answered 9.1 questions correctly compared to 8.7 for paid workers. The difference at the mean reflected a larger proportion of self-employed at the top of the distribution: 37.6% of the self-employed answered 11 or more questions correctly compared to 31.1% of paid workers.

A multivariate analysis (data not shown) indicated that the mean financial capability score for the self-employed remained significantly higher than the score for paid workers after controlling for age, education, region, immigration status and occupation.

Table 7 Financial capability scores – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
Questions correctly answered	%	
0	6.0	5.6
1	0.4	0.5
2	0.7	0.5
3	1.1	0.7
4	1.8	1.7
5	2.8	2.8
6	6.1	4.7
7	9.7	7.9
8	11.8	10.6
9	13.8	12.7
10	14.8	14.7
11	13.3	14.4
12	9.7	11.2
13	5.9	8.5
14	2.2	3.5
Mean	8.7	9.1

Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

population median *and* net worth above the population median. This compared to 14% of paid employees in the same situation. The self-employed were also more likely to have the combination of higher income and higher wealth than paid employees. The apparent discrepancy between household income and wealth, also noted in the United States, could be due to the fact that many self-employed people leave money in their businesses for investment purposes, for debt-servicing, or simply to build up a reserve fund.

The overall expenditures of the self-employed and paid-worker households accounted for a similar proportion of their incomes, although the self-employed spent proportionately more on housing and less on transportation.

Perspectives

Notes

1. Source: Labour Force Survey, CANSIM Table 282-0011.
2. According to the Survey of Labour and Income Dynamics (SLID), about one-tenth of paid employees in their main job had at least one other job at the same time. Most were also paid employees in their second job, but a significant number were self-employed in their second job. As a proportion of the total workforce, however, multiple jobholders with a business on the side represent a small portion of the overall workforce.
3. To avoid the concentration of unattached individuals among low-income families, all dispersion measures are based on household income values that have been adjusted for the size of the family. These 'adult-equivalent adjusted' (AEA) household income figures can be obtained by dividing total household income by the square root of the household size.
4. A limitation of the Canadian Financial Capability Survey is that information on assets is missing for approximately 50% of survey respondents. However, both the self-employed and paid employees had a similar degree of non-response. Also, the characteristics of those who did not answer the assets part of the survey did not differ between the self-employed and paid employees, thereby minimizing sample bias error.
5. The reference person is representative of the household's major source of employment income as they earned at least 50% of the total household income in at least two-thirds of all households. Restricting the sample to self-employed people earning at least 50% of total household income did not change the main conclusions.

6. Because the CFCS had a higher rate of non-response and 2009 was a downturn year, the results were verified against Statistics Canada's two most recent editions of the Survey of Financial Security (SFS), conducted in 1999 and 2005. A proxy variable based on income information and business ownership had to be derived to identify survey respondents who were most likely to be self-employed because the SFS does not have a job status indicator. In all cases, the average wealth of the self-employed was at least twice the average wealth of paid employees.
7. For the self-employed, however, tangible assets could include properties, machines and materials that are also used to conduct business, but not necessarily included or declared a 'business asset,' for example, a farm, a car used for business and personal reasons, or an office located within the house.
8. Assets that are used to conduct business include agricultural property, machinery and equipment, wholly or partially owned business property and assets, and copyrights, patents and royalties.
9. The CFCS enquired about personal household wealth, not the company's wealth. As a result, some of the self-employed—particularly the incorporated—might not have reported the full value of their corporations.
10. The CFCS question on financial assets asked respondents to consider the value of their employer pension plans in their estimates. In contrast, the SFS used plan descriptions to calculate the value of employer pensions. Thus, the CFCS may under-represent the value of employer pensions relative to the SFS. Nevertheless, the ratio between the median wealth of the self-employed and paid workers is similar in both surveys.
11. The vast majority of the self-employed are not covered by private pension plans.
12. In 2006, 44% of employed men age 65 and over were self-employed compared with 24% and 15% of those age 55 to 64 and 25 to 54, respectively (Uppal 2011). There was a similar pattern among women.
13. The first $750,000 in capital gains from the sale of a qualifying corporation can be tax-free. This particular feature of the tax system, called the Lifetime Capital Gains Exemption, is seen by many entrepreneurs as an important source of retirement income.
14. Individuals were classified on the basis of their AEA (adult-equivalent adjusted) income and net worth. The AEA is a 'per adult' equivalent that takes the number of people living in the household into account. It can be obtained by dividing total household and net worth figures by the square root of family size and is considered more closely aligned with an individual's true financial well-being.
15. Since the combination of low wealth and high income may be due to factors other than self-employment, a model was estimated that controlled for industry, occupation and a number of socio-economic characteristics. The self-employed were still significantly more likely to have lower incomes and higher wealth than paid workers.
16. In the SHS, the household reference person is the one taking care of the family's finances. Because the SHS does not provide information about the class of worker of survey respondents, self-employment was proxied by identifying those who said that their major source of income was from self-employment or those claiming property taxes or rents against business income.
17. A consumption flow is an estimate of consumption services that are obtained on an annual basis from durable goods and can be roughly interpreted as the amount that would have to be paid to 'rent' them.
18. All consumption, expenditure and income items are reported at the household level in the SHS. Survey respondents are those responsible for maintaining the family's finances. This means that other members of the household could influence household income and spending as paid employees.
19. The differences were also quite small when the comparisons were restricted to households in the middle of the income distribution.
20. Net self-employment income can be reported in the T1 file as business income, professional income, commission income, farming income or fishing income. Self-employment income is defined as the sum of the net income reported in all of these five reporting options.
21. Given that the self-employed are typically older than paid employees, age-adjusted incomes were also calculated. This did not significantly alter the results. Furthermore, longitudinal data from 2005 to 2008 were also used to check for the robustness of these results. Individuals who were self-employed (or paid employees) throughout the period were included in the sample. The conclusions remained largely unchanged.
22. Hours worked are defined as total hours paid in all jobs during the reference year.

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Delayed retirement: A new trend?

Yves Carrière and Diane Galarneau

The authors wish to thank Angèle Larivière, who worked as a summer student at Human Resources and Skills Development Canada in 2008, for helping develop the working-life tables.

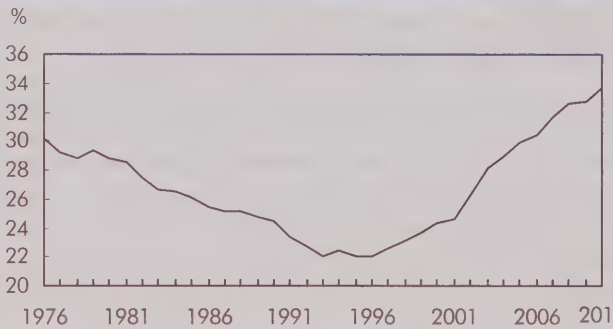
In recent years, Canada's aging population and the retirement of baby boomers has attracted a great deal of attention. Although the aging of the boomer generation is inevitable, certain incentives for older workers to continue working are frequently being considered to reduce the economic impact of aging (Burniaux et al. 2004; Expert Panel on Older Workers 2008; Denton and Spencer 2009; Hering and Klassen 2010; Hicks 2011). As life expectancy and years of good health increase, these measures may help strike a better balance between increased longevity and length of retirement (Castonguay and Laberge 2010). As well, they may make it easier to transfer knowledge and human capital, ease the transition to retirement and help workers who are financially unprepared (Mintz 2009).[1]

On the other hand, change may already be under way. While there was a marked trend toward early retirement in the 1980s and early 1990s prompted by high public-sector deficits and downsizing of private-sector organizations (Wannell 2007), the tide appears to have turned since the late 1990s. In 1997, the downward trend in the employment rate of individuals age 55 and over reversed—their employment rate has since increased by 12 percentage points to 34%—higher than in 1976 (Chart A).

The upward trend in the employment rate of those 55 and over could continue given that boomers are more highly educated, the coverage rate of defined-benefit pension plans is on a downward trend, and the expected tightening of the labour market due to incoming smaller cohorts (Gougeon 2009; Expert Panel on Older Workers 2008). In addition, work is becoming less physically demanding due to technological advances (Beach 2008). The trend may also have been amplified by the recent recession and financial crisis as well as the debt load of workers nearing retirement (Draut and McGhee 2004; Copeland 2009; RBC 2011; Marshall 2011). These factors may already have prompted a number of workers to postpone their retirement (Sun Life Financial 2011).

Using data from the Labour Force Survey (LFS), this article examines changes between 1976 and 2010 in indicators that measure aging of the workforce

Chart A Employment rate trend for people 55 and over reversed in the mid-1990s



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

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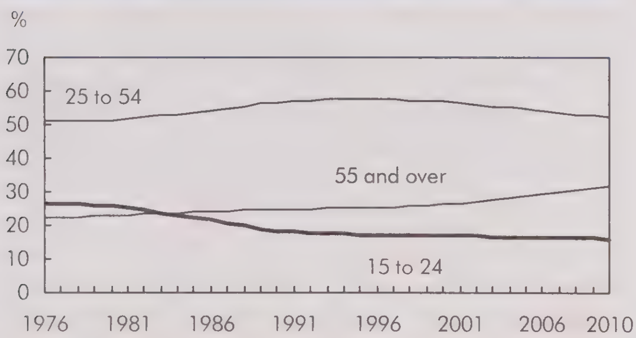
and delayed retirement. This article also attempts to reconcile two apparently contradictory trends: the increasing employment rate of individuals 55 and over and the relatively stable average retirement age in recent years (CANSIM Table 282-0051). The following questions will then be examined using working-life tables: How has the expected working life at age 50 changed in the last three decades? Is expected working life after age 50 increasing, as suggested by the recent increase in the employment rate? If it is in fact increasing, when did the trend change direction? Are the expected years in retirement a larger portion of life after 50 now than in the late 1970s? Lastly, the article looks at changes in the normal hours of work of individuals 55 and over during the period in which their employment rate showed strong growth. Since older workers tend to reduce their hours of work, could such a decrease offset the positive impact on the longer expected working life?

Aging has changed the age composition of the population

Population changes in recent decades have changed the age structure of the population age 15 and over (Chart B). The percentage of individuals 55 and over increased from 22% to 32%. A large part of that growth has occurred since the early 2000s, as the boomer generation entered the 55-and-over age group.

Chart B Percentage of the population 55 and over rose rapidly from the early 2000s



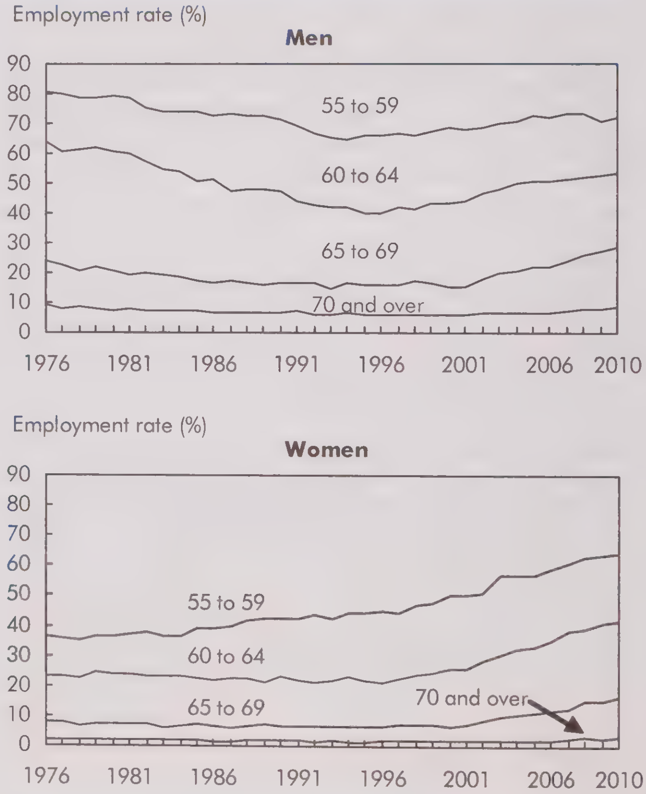
Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

At the same time, the percentage of 15- to 24-year-olds dropped significantly from 27% to approximately 16%. The percentage of 25- to 54-year-olds increased rapidly in the 1970s and early 1980s, levelled off and began to decrease in the second half of the 2000s.

Noticeable increase in the employment rate of older Canadians

The change in the population's age composition coincided with major social and labour market upheavals in Canada. The most prominent change in that period was an increase in the employment rate of women age 15 or over, from 41.9% in 1976 to 57.9% in 2010. In contrast, the employment rate of men age 15 or over fell by more than 7 percentage points in the same period.

Chart C Employment rate trend reversed for men, continued increase for women



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

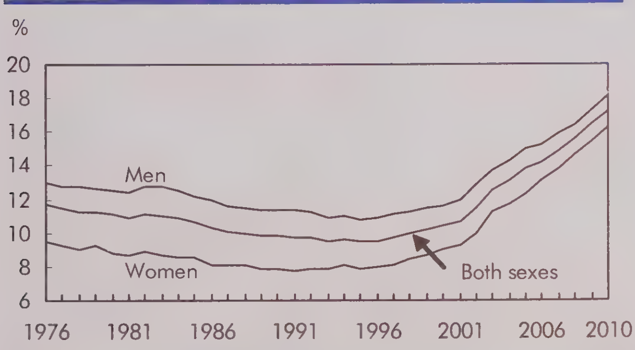
Particularly noteworthy are increases in the employment rate in recent years of both men and women 55 and over (Chart C). For men, this is a reversal of a previous trend in which the employment rate of those 55 and over dropped from 45.4% to 29.8% from 1976 to 1996. By 2010, it had risen to 39.4%. Men age 65 to 69 showed the most pronounced change, as their employment rate almost doubled between 2000 and 2010. The employment rate of men 60 to 64 also increased significantly.

For women, the upward trend in the employment rate began in earnest in 1996. Before then, the employment rate was relatively stable, with only the 55-to-59 age group rising slowly but steadily. After 1996, the employment rate of 55-to-59 year-olds increased to 64.1% in 2010, while the employment rate of women 60 to 64 almost doubled, from 21.5% to 41.4%. The employment rate of women age 65 to 69 increased at the fastest pace, from 6.9% in 2000 to 16.6% in 2010. These increases narrowed the employment-rate gap between men and women from 28.5 percentage points in 1976 to 10.8 in 2010.

An aging workforce

The increased participation of older age groups and the relative decrease in younger workers are two factors contributing to the aging workforce. The percentage of workers 55 and over declined slowly until the mid-1990s and then rose sharply in the early 2000s. In 2010, more than 1 in 6 workers was 55 or over (Chart D).

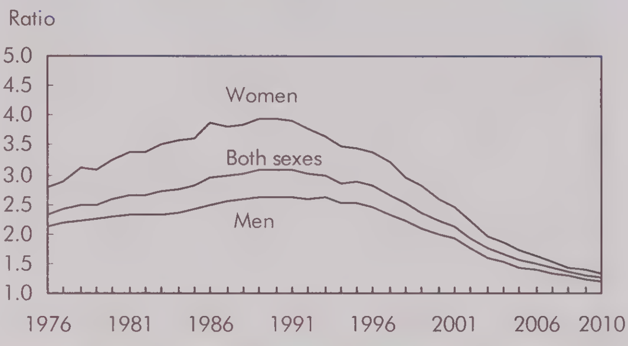
Chart D After a slow decline, the percentage of workers 55 and over rose



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

The aging workforce has also changed the potential capacity to replace older workers. In 1976, there were 2.3 younger workers age 25 to 34 for each worker 55 or over. In 1991, the ratio peaked at 3.1. The ratio then fell to 1.3 in 2010 (Chart E).

Chart E After peaking in 1991, the entrant–retiree ratio dropped



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

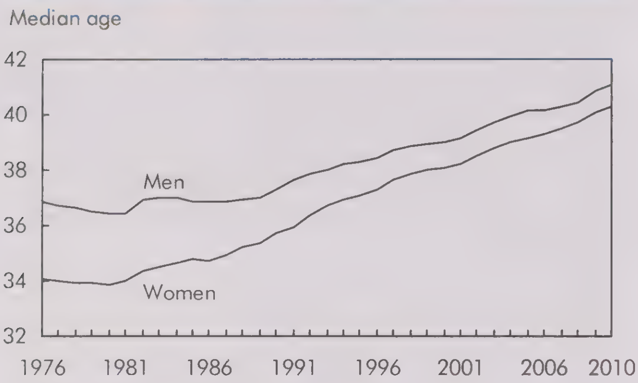
For most of the period studied, the entrant–retiree ratio of women was higher than that of men, reflecting their younger age—the median age of employed women in 1976 was almost 3 years younger than that of employed men (Chart F)—and the increasing employment rate of younger women, which helped lower their average age. As a result, the entrant–retiree ratio rose from 2.8 in 1976 to 3.9 in 1991.

The median age of women gradually caught up to that of men, so that the gap between them closed to approximately 1 year in the 2000s. Over time, the participation of women in the labour market became similar to that of men, resulting in a comparable entrant–retiree ratio of 1.3 in 2010.

Indicators of a lengthening working life

The concept of retirement age is not easily measured, despite widespread interest in the concept (Bowlby 2007; Denton and Spencer 2008—see *Data source, method and definitions*). However, some indicators seem to point to a lengthening working life in recent years. Given the potential effects of a longer working life on

Chart F Median age of employed women has almost reached that of men



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

economic growth (Expert Panel on Older Workers 2008; Denton and Spencer 2009), it is important to understand the recent trends.

First, the annual full-time employment rate was reproduced by age at three points in time: 1976, 1997 (the major turning point in retirement behaviour) and 2010 (Chart G). The full-time employment rate was chosen to approximate the concept of 'career job,' that is, the job held after graduation and before retirement.

A rightward shift can be seen in the employment rate by year of age when comparing 1976 to 1997 and 2010, such that younger workers are starting full-time work later in life. In 1976, the full-time employment rate reached the level of the older groups at about age 25. In 2010, that level was reached at age 29 mainly due to increased years of education.

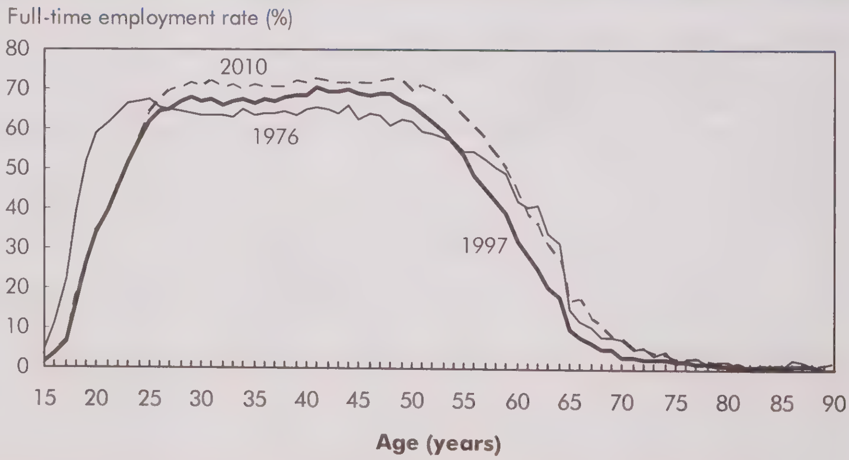
Moreover, the employment rate increased between 1976 and 1997 for each year of age from 27 to 54. That period coincides with the increasing participation of women in the labour market, which boosted the overall employment rate. The increase continued through 2010, the employment rates of those age groups being higher than in 1997 and 1976.

For those 55 years and over, the employment rate increased between 1997 and 2010, with the employment rate for each year of age over 55 exceeding the 1997 rate. The 2010 rates also exceed the 1976 rates up to age 60, and from this age and up the 2010 and 1976 rates are similar.

Both men and women are entering full-time employment later in life (Chart H). In the over-55 age group, the employment rate of men fell between 1976 and 1997, but that of women rose during and beyond that period. In addition, the 2010 rebound in the employment rate of those 55 and over is primarily the result of the sharp increase in the full-time employment rate of women. Men contributed to the rebound to a lesser extent.

The increase starting in the mid-1990s in the employment rate of men 55 to 69 may indicate delayed retirement. The increase in the employment rate of women is likely the result of two trends: delayed retirement and the arrival of cohorts with higher employment rates.

Chart G Younger workers entering full-time work later in life, employment rates rebounding among older workers



Source: Statistics Canada, Labour Force Survey, 1976, 1997 and 2010.

Data source, method and definitions

Data source

This article is based on data from the Labour Force Survey (LFS), which has a sample size of 54,000 households each month. The LFS provides information on major labour market trends by industry, occupation, hours worked, employment rate and unemployment rate. In this article, the population being studied is that of older workers—those age 55 and over. However, the working-life tables are based on the population age 50 to 80, since this is the age group covering most retirements. Since data for the Northwest Territories, Yukon and Nunavut are not included, the findings of this study apply only to the 10 provinces.

Retirements

The LFS allows the number of retirements in a month or year to be calculated, since "retired" is one response to the question about the reason for stopping work, which is asked if the respondent is not working at the time of the survey, but has worked in the preceding 12 months.[2] Retirements are recorded only for those age 50 and over.

Retirements identified using the LFS are not necessarily full retirements, first retirements or career job retirements. The LFS records retirement as reported and perceived by the respondent at the time of the survey. Since the concept of retirement has changed since the survey began, the concept captured by the LFS has also changed. Compared with retirements recorded during the 1970s and 1980s, retirements recorded today are less likely to be full retirements, since the paths to retirement have become more varied (Schellenberg et al. 2005). As a cross-sectional survey, the LFS cannot identify the multiple states between first retirement and full retirement.

The method used to obtain the number of retirements is not the same as the one used in Gower (1997). The retirement file used therein considered only the retirements for 1 out of 6 months for each rotation group. In this article, responses from all rotation groups are considered. However, retirements in the first and last months of data collection for each year of retirement have been excluded. The number of retirements for the first month of collection (for example, January 2010 for retirements in January 2010) is consistently lower, since respondents have only two weeks to report their retirement. The last month of data collection (for example, November 2010 for retirements in January 2010) is also excluded, due to a processing adjustment introduced in November 1995. Excluding the last month of data collection ensures that the data are processed in the same way for all selected months.

In this article, data are presented by year of retirement and not by year of data collection. Each year of retirement data requires 21 months of collection. For example, to obtain all the retirements in 2009, the LFS data from February 2009 to October 2010 must be used. Therefore data on retirements in 2010 are not shown because collection is not yet complete.

Method

Expected working-life calculation

Expected working life can be calculated using LFS data with a method similar to the one used for calculating life expectancy (Bélanger and Larrivée 1992; Denton et al. 2009). First, the number of retirements for each year of age from 50 to 80 is calculated using the LFS retirement variable. The retirement rate is then determined by dividing the number of retirements by the annual average number of employed individuals for each year of age plus one-half of the retirements at the same age (assuming that retirements are distributed evenly throughout the year). To a hypothetical cohort of employed 50-year-olds in a given year (say, 1976), that year's retirement rates for each subsequent year of age are applied, as if the cohort were aging and shrinking as a result of retirements. That makes it possible to determine the number of years that a person would spend working and in retirement if, beginning at age 50, the retirement rates were the same as in 1976.

Expected working life has been calculated as described above for each year from 1976 to 2009. Since retirement occurs relatively infrequently, three-year moving averages have been used to calculate retirement rates. Thus the tables go from 1977 to 2008.

Since life expectancy has continued to increase, expected working life takes both changes in behaviour regarding retirement and declining probabilities of death into account (Canadian Human Mortality Database, Université de Montréal 2010). It must therefore be assumed that mortality is the same for the employed and the general population. The method can show how expected working life starting at age 50 has changed as a percentage of the remaining years of life. The tables stop at age 80 since there are few employed people over 80.

In this article, only employment exits for retirement (Table 1) are considered, even though other types of exits (for example, layoff, caregiving or illness) may lead to retirement. If all exits had been included, the number

Table 1 Distribution of individuals age 50 and over who left a job in the 12 months preceding the LFS reference week by reason, selected years[1]

	1976	1980	1989	1999	2007	2009
Reason			%			
Illness or disability	14	13	11	8	10	7
Personal or family responsibilities	7	4	3	2	2	2
Laid off	35	40	43	45	46	55
Retired	28	28	31	35	33	27
Other	15	15	12	10	9	8

1. With the exception of 2009, the preceding years are comparable in the business cycle.
Source: Statistics Canada, Labour Force Survey (LFS), 1976, 1980, 1989, 1999, 2007 and 2009.

Data source, method and definitions (concluded)

of employed individuals in the hypothetical cohort would have declined more quickly in each year, but the findings would have been the same. The study by Denton et al. shows similar trends using a very broad definition of retirement, wherein retirement rates correspond to the drop in the participation rate between two ages.

The distribution of reasons for job exits for those over 50 changed over time. For example, the proportion of exits due to layoffs increased between 1976 and 2009, while personal and family reasons decreased. Retirements increased until the late 1990s, but have dropped in recent years.

One advantage of the expected working-life tables is that they make it possible to identify trends of older workers approaching retirement that are not affected by the age structure of the 50-and-over age group. Given that the first of the baby boomers entered the 50-and-over age group in the mid-1990s, certain changes among older workers may be primarily the result of the age of the group dropping due to the significant influx of the baby boomers.

Definitions

Older worker: In this article, a worker who is 55 or over.

Entrant-retiree ratio: There are several ways to calculate this type of ratio, and they all result in very similar trends. In this article, the number of workers age 25 to 34 is divided by the number of workers age 55 and over. The 25-to-34 age group was chosen instead of the 15-to-24 age group to avoid including students in the indicator.

Retiree: A person age 50 or over who has worked in the preceding 12 months, but is not working at the time of the survey as result of retirement.

Expected working life: In this article, 'expected working life' is used instead of 'pre-retirement expected working life' for brevity. Both refer to the same concept, namely the number of years that an employed 50-year-old can expect to work before retiring or dying, should this occur before retirement.

Post-retirement life expectancy: The number of years one can expect to live after retiring from a job.

An analysis of employment-rate changes alone is not enough to determine whether retirement is being postponed, especially among women. Therefore, another indicator will be examined: the average retirement age.

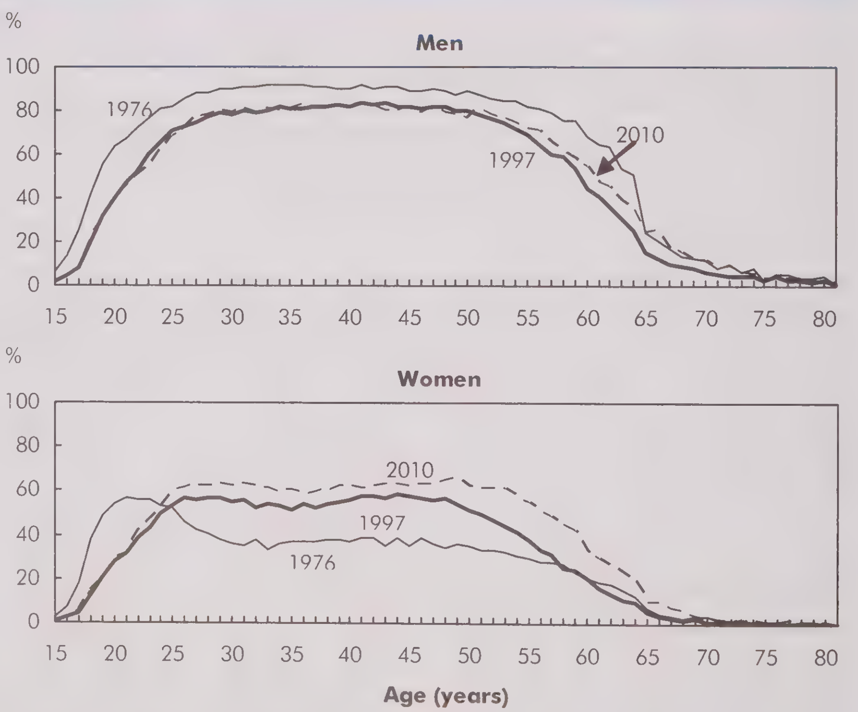
Interpretation issues with the average retirement age

The average retirement age is often used to study changes in retirement behaviour. The average retirement age rose somewhat after bottoming out in the mid-1990s (Chart I); however, since 2004 it has remained relatively stable at around 62, which is surprising because the employment rate of those 55 and over has been rising significantly for a number of years.

Whether average retirement age is calculated from the LFS or another source, it must be interpreted with caution for the following reasons:

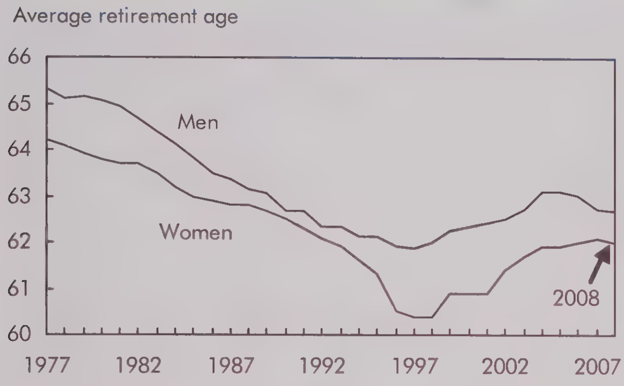
- It is influenced by the age structure of the 50-and-over age group.

Chart H For men under 65, the full-time employment rate has remained lower than in 1976, for women, it has increased continuously starting at age 24 since 1976



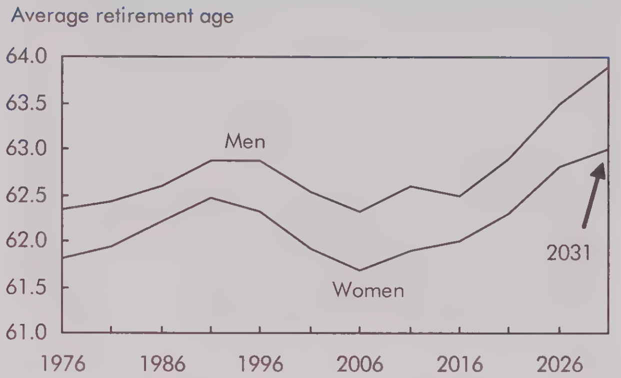
Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

Chart I Average retirement age stable since 2004



Source: Statistics Canada, Labour Force Survey, 1977 to 2009.

Chart J Demographic effect on average retirement age



Source: Statistics Canada, Labour Force Survey, 1976 to 2009.

- It is more sensitive to early retirements than delayed retirements.
- It is not necessarily representative of the behaviour of all workers approaching retirement.

The influence of the age structure of the 50-and-over age group may result in a lower average retirement age if most of the employed people in that age group are 50 to 59, or a higher average retirement age if most of those people are 60 to 69. Therefore, the gradual entry of the sizeable boomer generation into the 50-and-over age group may have a large impact on the average retirement age.

To illustrate this effect, the average retirement age from 1976 to 2031 was calculated using 2008 annual employment and retirement rates. Only the age structure was allowed to vary. In that way, the impact of age structure changes on the average retirement age between now and 2031 could be isolated (Chart J).

In the mid-1990s, the first of the baby boomers turned 50, making the 50-and-over age group younger overall (the percentage of 60- to 69-year-old men and women dropped between 1990 and 2000), bringing down the average retirement age (by 0.5 years for men and 0.6 years for women) and partially offsetting the potential increase in the average retirement age, as a result of the numerous young retirees from the boomer generation.

Simlarly, the gradual entry of the boomers into the 60-to-69 age group between 2006 and 2026 will age the 50-and-over worker group, increasing the average retirement age by approximately 1.5 years. The trend is significant because it could suggest a lengthening of the working life of older workers with no change in retirement behaviour.

In addition to being influenced by the age structure, the average retirement age is more sensitive to early retirements than delayed retirements. For example, in the most extreme case that, in a given year, only one person retired and all other employed individuals postponed their retirements, the average retirement age would be the age of that single retiree. The average retirement age would eventually reflect the late retirements, but not until a number of years after the changes in retirement behaviour of the employed individuals had occurred.

In the above example, the average retirement age for that year would not account for the numerous individuals who postponed their retirement and would be representative of the behaviour of only one individual.

For these reasons, the average retirement age does not reliably reflect changes in retirement behaviour. This partly explains why, for several years, the average retirement age has not increased significantly, even though the employment rate of Canadians 55 and over

has risen sharply. The expected working life tables make it possible to measure changes in retirement behaviour more accurately.

Expected working life[3] has increased by approximately three years since 1997

While retirement age is hard to measure, it is possible to construct expected working-life tables from LFS data using a method similar to that for calculating life expectancy (Bélanger and Larrivée 1992; Denton et al. 2009; Wannell 2007—see Data *source, method and definitions*). Despite certain limitations, changes in expected working life reflect changes in retirement behaviour much more accurately than average retirement age.

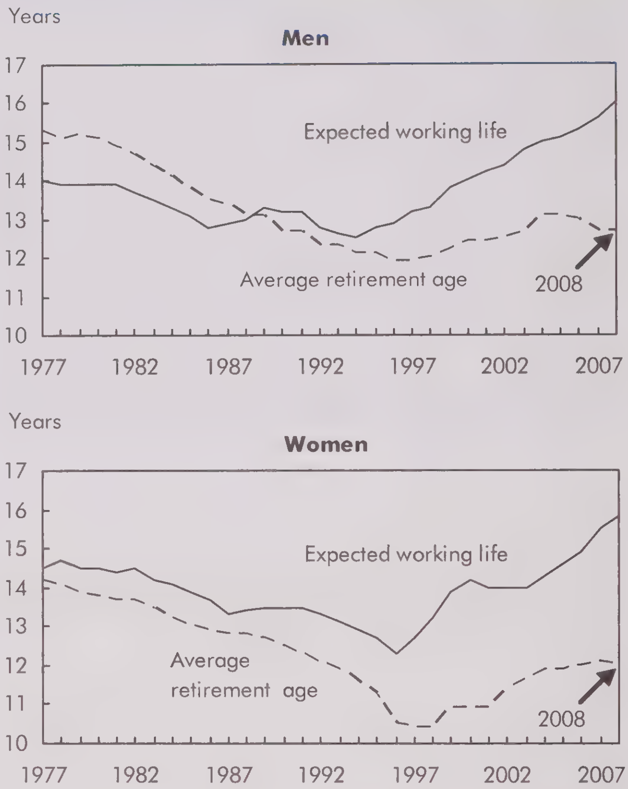
Expected working life makes it possible to estimate the number of years that a person can expect to work before retiring.[4]

The average number of years a 50-year-old can expect to continue working was compared (using expected working-life tables) with a similar number derived from the average retirement age[5] (Chart K). From 1976 to the mid-1990s, both numbers fell significantly for men and women. However, the number derived from the average retirement age fell almost twice as much.

As well, the increase that started in the mid-1990s is greater based on expected working life. For men, the increase starts in 1994 and totals 3.5 years. Using average retirement age, the increase starts in 1997 and totals only 0.8 years. For women, the increase from the mid-1990s totals 3.5 years using expected working life and 1.6 years using average retirement age.

The working-life tables therefore indicate a significant increase in delayed retirement starting in the mid-1990s, which is consistent with the increase in the employment rate of older Canadians starting in the same period. The expected years of employment is even greater in 2008 (16 years for men and women) than in 1977 (14 years for men and women). These estimates indicate that, in 2008, Canadians tended to retire later in life than in 1977. Specifically, employed 50-year-olds would have waited longer to retire at the 2008 retirement rates than at the 1977 retirement rates.[6]

Chart K Employed 50-year-old men likely to work for approximately 16 years before retiring, women almost as long



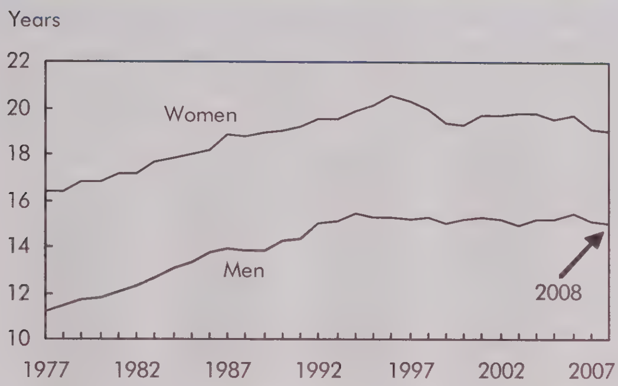
Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

Fewer expected years in retirement?

Has the trend toward later retirement resulted in fewer expected years in retirement after age 50? This question is important given the impact on economic growth of an increase in the number of years spent in retirement as a result of increased longevity.

The working-life tables show that the expected length of retirement for men increased from 11.2 years to 15.4 years between 1977 and 1994 (Chart L).[7] It has since levelled off at approximately 15 years (in 2008).[8]

Chart L Length of retirement stable since the mid-1990s

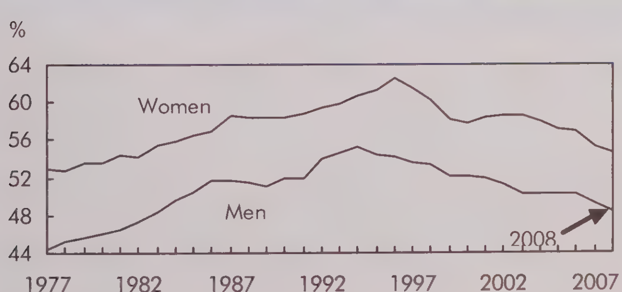


Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

Although life expectancy has continued to increase since the mid-1990s, the proportion of expected years in retirement at age 50 has declined (Chart M). In 1994, slightly more than 55% of the remaining years of life after age 50 were expected to be spent in retirement; in 2008, the number fell to 48%, similar to the level in 1977 (45%).[9]

The trends for women are similar. From 1977 to 1996, the expected working-life tables show that the years in retirement for women increased from 16.4 to 20.6, and the years in retirement as a percentage of total life expectancy starting at age 50 increased from 53% to 63%. The years in retirement then fell to 19 years in 2008, or 55% of total life expectancy at age 50, which is comparable to the 1977 number.

Chart M Since the mid-1990s, decreasing proportion of total life expectancy spent in retirement starting at age 50



Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

For both men and women, the expected working-life tables show that the expected length of retirement, in absolute terms, has stabilized after a sharp increase between 1977 and the mid-1990s. That relative stability, combined with an increase in life expectancy at age 50, has increased the percentage of years spent working after age 50 over the last 15 years or so. Since the trend to delayed retirement was well-established before the recent financial crisis and economic downturn, it cannot be viewed as a direct consequence of these events.

Decreased hours of work for men 50 and over

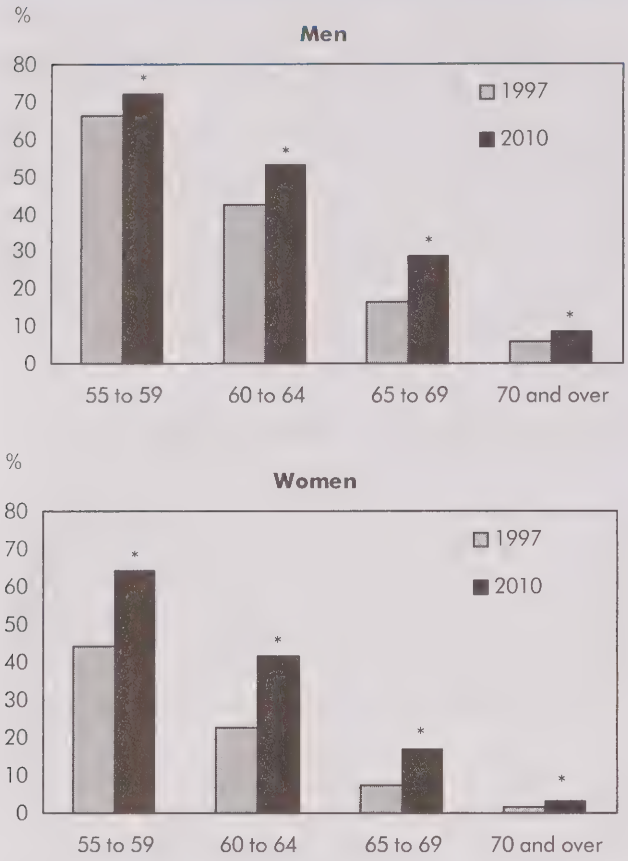
The longer working life of older workers may offset some of the economic impacts of aging. However, hours of work must be considered, since the number of hours worked generally declines with age. In the absence of a productivity increase, the full effect of longer working life on economic growth could be offset by shorter hours of work for older workers.

As the employment rate of men 55 and over increased, their regular hours of work decreased (charts N and O). In 1997, men 55 and over worked an average of 40.1 hours per week, compared to 38.6 hours per week in 2010.[10] The decrease occurred mainly in the 55-to-64 age group, with no significant decrease in older groups. The decrease affected mostly full-time workers, who worked an average of 1.4 fewer hours per week, while part-time workers added 0.6 hours per week.

Despite the increased incidence of part-time work among men 55 and over (from 14.3% to 15.9% between 1997 and 2010), the employment growth was largely the result of an increase in full-time employment which represented 5 out of 6 new jobs.

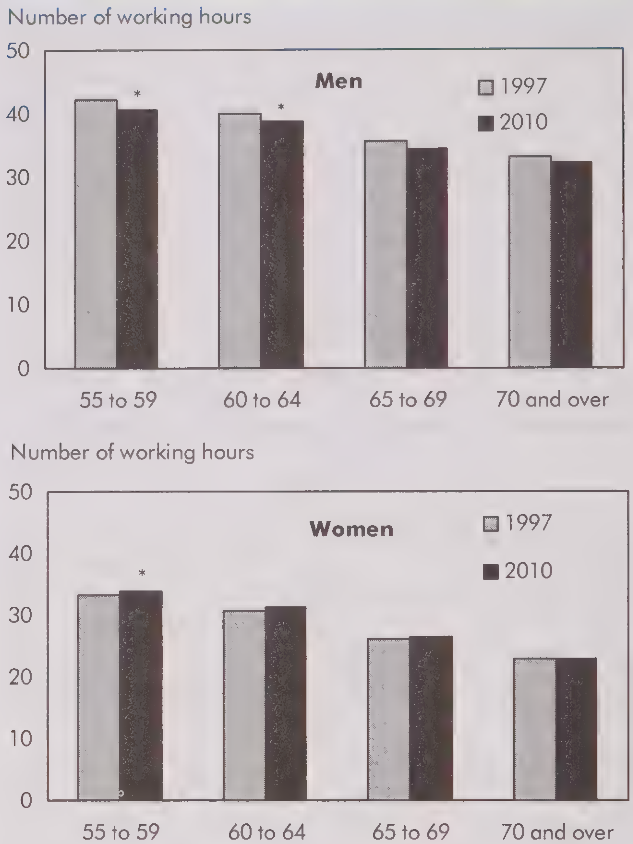
The employment rate increase (which is partly due to delaying retirement) has had a marked effect on total annual hours of work for older men, which have increased by 87% since 1997. If the employment rate had not risen, the hours would have increased by 51%.[11] Therefore the slight decrease in average weekly hours was not sufficient to offset a large portion of the increase in annual hours.

Chart N Growing employment rate of individuals 55 and over



* The differences between the 1997 and 2010 employment rates and average number of weekly working hours by age group are statistically significant at the 0.05 threshold.
Source: Statistics Canada, Labour Force Survey, 1997 and 2010.

Chart O Average number of working hours getting shorter for men but longer for women



* The differences between the 1997 and 2010 employment rates and average weekly working hours by age group are statistically significant at the 0.05 threshold.
Source: Statistics Canada, Labour Force Survey, 1997 and 2010.

The shortening of the average work week for men is mainly the result of a change in the composition of the male labour force. Specifically, the transition of older workers from primary and manufacturing industries, which traditionally entail relatively long hours of work, to business, construction, and professional, scientific and technical services, which have relatively shorter hours of work, is a key reason for the decrease in hours (accounting for between 37% and 44% of the change).[12]

Increased average hours of work for women

In addition to increased employment, the average work week lengthened slightly for women, from 31.4 hours in 1997 to 31.9 hours in 2010. Unlike men, the positive effect of women's increased employment is amplified by the longer average work week. The number of female workers 55 and over grew by 160% between 1997 and 2010. Assuming that their 2010 average work week was maintained throughout the

year, women's average annual hours increased slightly more (164%) than the number of women. If the employment rate and average work week had remained at 1997 levels, the increase in annual hours would only have been 44%.

Women's increased hours of work are the result of an increased rate of full-time work despite a shortening of the work week of full-time workers from 40.2 hours to 38.8 hours. In contrast, the work week of women in part-time jobs increased from 15.7 hours to 17.0 hours.

Among women 55 and over, the distribution by occupation and industry remained relatively stable between 1997 and 2010, such that this factor did not significantly contribute to the increase in their average hours of work.

Conclusion

Baby boomers have played a large part in changes to the Canadian labour market over the last 30 years and their impact will likely continue to be felt for years to come. The aging of the boomer generation and its transition to retirement will have a major impact on the labour market and the overall economy.

In fact, some of the changes are well under way. Since the early 1980s, workers 55 and over have represented an increasingly large part of the total population while the potential capacity to replace older workers has been decreasing. In 1991, the ratio of young worker (25 to 34) to those nearing retirement (55 and over) was 3.1; in 2010, it was 1.3.

An important trend in recent years for both men and women has been the growth in the employment rate of people 55 and over. This growth could mitigate certain anticipated effects of population aging. For men, the growth represents a reversal of a previous trend, since their employment rate was falling between 1976 and 1997. For women, the growth is the continuation of a trend. From 1997 to 2010, the employment rate of men 55 and over grew from 30.5% to 39.4%, and that of women grew from 15.8% to 28.6%.

This strong growth seems at odds with the stability of the average retirement age since 2004. The average retirement age has remained at approximately 62 for close to 7 years. As an indicator, it has a number of limitations and may misrepresent retirement trends. In order to address these shortcomings, the expected working life was calculated using a method similar to that used for calculating life expectancy.

This approach makes it possible to calculate the number of years a 50-year-old Canadian can expect to work before retiring if he or she were subject to the retirement rates for a given year as they aged.

The working-life tables indicate a significant increase in delayed retirement starting in the mid-1990s. Expected working life was even higher in 2008 than in 1977. It was about 14 years for men and women in 1977, compared to 16 years in 2008.

The recent trend to delayed retirement also stabilized the expected length of retirement. The working-life tables show that the expected length of retirement increased from 1977 to the mid-1990s and has since remained relatively stable. The expected length of retirement expressed as a percentage of total life expectancy after age 50 was about the same in 2008 as in 1977.

Although the 2008 financial crisis and economic slowdown may have prompted some workers to postpone their retirement, delayed retirement is far from being a new trend. The results show that the trend began in the mid-1990s, well before these events.

Delayed retirement could alleviate some of the economic challenges of population aging. However, hours of work must be considered, since a drop in average weekly hours could partly offset the impact of an increased expected work life on annual hours and economic growth. In fact, the average work week for those 55 and over in 2010 was indeed 1 hour shorter than in 1997.

Despite this drop, annual working hours for those 55 and over increased by 87% since 1997. If the employment rate had remained at its 1997 level, the increase would have been 48%. Therefore delayed retirement, measured by the working-life tables, has had a large positive impact on total annual hours despite the decrease in average weekly hours.

Perspectives

Notes

1. Mintz (2009) states that 1 in 5 Canadians fails to accumulate enough savings to replace 90% or more of his/her pre-retirement expenses. The proportion is even greater for low- and average-income earners.

2. Only starting in 1997 was this question asked of people who had been temporarily laid off.

3. Here, and elsewhere in the text, 'expected working life' is used instead of 'pre-retirement expected working life' for readability. In theory, working life can end for reasons other than retirement. However, this article considers only termination of employment after age 50 as a result of retirement or death.

4. Like the life-expectancy calculation, which gives an idea of the number of years a person has left to live if the mortality rate in a given year applies throughout that person's life, the expected working-life tables make it possible to calculate the number of years a 50-year-old Canadian can expect to work before retiring if the retirement rates in a given year prevail into the future.

5. For purposes of comparison, 50 was subtracted from the average retirement age and the number thus derived was compared to the expected working life at age 50.

6. This result is also partly attributable to the lower death rate.

7. This is a comparison between a 50-year-old Canadian under the 1977 retirement rate at each age and a 50-year-old Canadian under the 1994 retirement rate at each age.

8. Using the average retirement age, the expected length of retirement increased from 10 years to 18.3 years in the same period. Both indicators show a sizeable increase in the expected length of retirement after age 50, however, the increase is noticeably greater using the average retirement age because it has a number of limitations, as mentioned earlier.

9. Using the average retirement age, the increases went from 39% in 1977, to 57% in 1994 and to approximately 59% in 2008.

10. This comparison is between 1997 and 2010, and not 2008 or 2007. Even though, in 2010, a number of population groups had not completely recovered the losses incurred during the 2008 recession, those 55 and over were less affected by the slowdown, and in 2010 men and women in that age group had employment rates that were greater than those in 2008 (39.4% versus 38.6% for men and 28.6% versus 27.3% for women). The employment rates of those 55 and over were greater in 2010 than in 2007.

11. The number of workers 55 and over increased by 95% between 1997 and 2010. Assuming that men maintained the annual average of weekly hours worked in 2010, week by week, their average annual hours would have increased slightly less (87%) than the number of workers. The increase in overall annual hours is slightly less than the increase in the number of workers. The LFS does not include annual hours. To obtain annual hours, the annual average of the weekly hours worked was multiplied by 52.

12. This is the result of an Oaxaca decomposition. Demographic variables were used in the regressions (age, age squared, education, province of residence, whether the person resided in a CMA, and marital status) as well as labour market variables (industry, occupation, length of employment, company size, unionization, whether the person was a part-time or full-time employee, and hourly wage).

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Regional economic shocks and migration

André Bernard

Every year, Canadian communities experience economic slowdowns, often caused by the closing of key establishments in the local economy. When the employment and wage prospects of one region weaken in relation to others, residents—particularly those active in the labour force—look to migrate elsewhere to improve their economic situation. Theoretically, the decision to migrate or remain in one's region is linked in part to the probability of finding a job and the expected level of income in the regions considered (Todaro 1986 and 1969).

There are advantages to migrating from one region of the country to another. For example, people who were laid off and would otherwise be unemployed may find work in regions experiencing labour shortages. In such cases, migration serves as a market-adjustment mechanism (Blanchard and Katz 1992). However, significant decreases in population may have negative consequences for the affected regions. The economic and social vitality of those regions can suffer if property tax revenue and thus municipal services decline or stagnate. Such a situation may then exacerbate the region's economic decline, especially if those leaving are the most skilled or the youngest.[1]

The people who leave following a regional economic shock are not necessarily the individuals directly affected by the job or income losses. Others may perceive a weakening in their long-term job and earnings outlooks and thus look to migrate. For example, an increase in a region's unemployment or a decline in average earnings will generally limit residents' potential wage increases and their chances of obtaining new, higher-paying jobs in the same region. If unemployment rates and average hourly wages remain the same in other regions, they will become more attractive to potential migrants.

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Such economic shocks are more likely to affect communities with smaller populations. The economies of large metropolitan centres are generally more diversified (Beckstead and Brown 2003) and therefore less subject to abrupt changes. The economic prosperity of cities outside large metropolitan centres and migration problems associated with them can draw the attention of public policy makers.[2] For example, if a policy's objective is to promote retention of residents in a given region, it is important to know the extent to which economic considerations play a key role in the decision of these residents to migrate or not.

Most studies examining the link between economic conditions and internal migration in Canada have looked at interprovincial migration (Finnie 2004, Coulombe 2006, Bernard et al. 2008, and Ostrovsky et al. 2008).[3,4] Instead this study considers migration from one census agglomeration (CA) or census metropolitan area (CMA) to another.[5] The main objective is to determine if there is a link between regional economic shocks and the migration of residents. The impact of changes in the economic situation of individuals on migration will also be examined. Regional economic shocks are defined by changes in regional economic conditions, measured by two variables: unemployment rate and average hourly earnings. These two variables reflect the extent to which a region offers strong employment opportunities at good wages for its residents. The economic situation of individuals is measured by the level of and changes in annual personal income.

The focus of this study is on migration from cities outside large metropolitan centres, that is, CAs and CMAs of less than 500,000 people. The migration period covered is from 2000 to 2008.[6]

The preliminary goal of the study is to document migration during the period studied based on the size of the population of the CA and CMA. This is done to determine the extent to which residents of smaller

CAs and CMAs are more likely to migrate. The destination of these migrants will also be examined. Are they mostly going to large metropolitan centres or are they migrating to similarly sized CAs or CMAs?

The primary data sources used for this study are the Longitudinal Administrative Databank (LAD) and the Labour Force Survey (LFS) (see *Data sources and definitions*).

Migration much higher in small CAs

In general, the smaller a region's population, the higher its migration rate. For example, in 2008, the migration rate among persons age 20 to 54 living in a CA with a population between 10,000 and 19,999 was 7.9% (Table 1). In other words, 7.9% of the population of those regions in 2007 had migrated to another CA or CMA in Canada in 2008. In contrast, in CMAs of 500,000 or more, this rate was only 2.3%. So residents of small CAs were more than three times more likely to migrate elsewhere in the country than persons living in large CMAs.

A negative relationship between the size of a CA's or CMA's population and its rate of migration in each year considered is observed from 2000 to 2008. CAs with medium-sized populations have lower migration rates than CAs with smaller populations.

Table 1 Migration rate by CA or CMA population, persons age 20 to 54

	Population				
	10,000 to 19,999	20,000 to 49,999	50,000 to 99,999	100,000 to 499,999	500,000 or more
			%		
2000	7.6	6.2	5.5	4.2	2.5
2001	8.4	6.6	5.7	4.5	2.8
2002	8.2	7.7	6.3	3.5	2.0
2003	10.0	7.8	6.9	5.2	3.4
2004	8.5	6.2	5.6	4.3	2.7
2005	8.4	6.5	5.6	4.3	2.6
2006	8.2	6.6	5.6	4.3	2.8
2007	10.4	9.9	6.2	4.5	2.8
2008	7.9	7.0	5.2	3.9	2.3

CA Census agglomeration
CMA Census metropolitan area
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2008.

Data sources and definitions

The main databank used in this study is the **Longitudinal Administrative Databank (LAD)**. It comprises a 20% random sample of the annual T1 Family File (T1FF), a cross-sectional file of all tax filers and their families. Census families are identified from the information provided to the Canada Revenue Agency in tax returns and applications for the Canada Child Tax Benefit. These sources provide longitudinal data on individuals and their families, like sources of income and such basic sociodemographic characteristics as place of residence, age, sex, and family type. LAD currently covers the period from 1982 to 2009. In this study, the data from 1999 to 2008 were used.

For the purpose of this study, a move has taken place when a person lives in a census agglomeration (CA) or census metropolitan area (CMA) at *t-1* and lives in another at *t*. Conversely, no move has taken place when the person lives in the same CA or CMA during the two years. Persons who leave the country are excluded from the analysis for their years outside the country. The first moves were observed between 1999 and 2000 and the last between 2007 and 2008.[7]

In addition, if the person was a student at *t-1* or at *t*, the move is excluded. Students often attend institutions outside their region of origin and their migration status may be difficult to interpret for that reason. The tax deduction for full-time studies is used to identify students, with those in full-time studies at least four months in a year considered as students.

The sample is restricted to persons age 20 to 54 since they are much more likely to be involved in the workforce and to migrate than younger or older Canadians. Moves that may be related to a transition to retirement were intentionally excluded.

The population sizes for the CAs and CMAs are from the **2006 Census** (see Appendix for a list of the CAs and CMAs by population size). The **Postal Code Conversion Files from 2000 to 2008** were used to identify the CA or CMA of residence for each individual in LAD. The family postal code, available in LAD, was matched to the Postal Code Conversion File.[8]

The data on regional economic conditions were drawn from the **Labour Force Survey (LFS)**. The LFS is a monthly survey of approximately 54,000 Canadian households that provides details on employment and unemployment in Canada. It covers the civilian population 15 years of age and over, but excludes persons living on reserves and in other Aboriginal settlements in the provinces, full-time members of the Canadian Armed Forces, and persons living in institutions. The unemployment rate and average hourly earnings for each year were calculated for each CA of 50,000 residents or more and for each CMA, as well as for the country as a whole.

Immigrants are identified through the **Longitudinal Immigration Database (IMBD)**, which is a file linked to LAD. The IMBD, created by Citizenship and Immigration Canada, contains a variety of information on immigrants at time of landing in Canada.

Migration to large metropolitan centres

Large metropolitan centres are attractive to migrants from CAs and CMAs with less than 500,000 residents. However, migrants are not more susceptible than Canadians in general to live in these large metropolitan areas following their migration.

Large CMAs were by far the most frequent destination for migrants from CAs or CMAs in all population categories. For example, 39.6% of migrants from a CA with a population between 10,000 and 19,999 chose CMAs of 500,000 or more (Table 2). In contrast, only 7.3% remained in a CA with a similarly sized population.

There is a similar phenomenon with migrants from CAs with a population between 20,000 and 49,999 and between 50,000 and 99,999. Some 45.2% and 47.0% respectively of these migrants chose to move to a large CMA, whereas less than 15% chose to migrate to a CA with a population similar in size to their own.

Even migrants who leave a CMA with a population between 100,000 and 499,999 were more than twice as likely to migrate to a CMA with a population of 500,000 or more (53.2%) than to a CMA with a population of similar size to their own (22.4%).

The stronger attraction of large metropolitan centres is not unexpected. Indeed, one might surmise that the number of migrants moving to a given region is more or less proportional to the size of the region's population. Thus, compared to the population in general, migrants from the smallest towns are not more likely, after migrating, to live in a large metropolitan centre. On average from 2000 to 2008, 64.9% of the population age 20 to 54 lived in a CMA of 500,000 or more, which is actually much higher than the proportion of migrants from smaller CMAs or CAs who moved to these CMAs.

Little difference in the economic conditions of areas of origin and areas of destination

To establish a link between regional economic conditions and migration, the annual unemployment rate and average hourly earnings for each CA of 50,000 or more and each CMA were compiled. These data were obtained from the Labour Force Survey (LFS) (see *Data sources and definitions*). These data enable us to determine if people move from regions with a relatively high rate of unemployment and relatively low rates of pay to regions with relatively low unemployment and relatively high rates of pay.

On average, the economic conditions of the regions that migrants leave and the economic conditions of the regions to which migrants move are similar at the time of departure and arrival to the national average. From 2000 to 2008, the unemployment rate of the CAs and CMAs of origin was 6.8% on average, whereas the unemployment rate of the CAs and CMAs of destination was 6.6%[9] (Table 3). In both cases, the difference between the regional unemployment rate and the national average for the corresponding year was 0.2 percentage points.

Thus, we do not see any general movement from CAs or CMAs with relatively high unemployment to CAs or CMAs with relatively low unemployment.

Table 2 Origin and destination of migrations by CA or CMA population, persons age 20 to 54

	Regions of destination (residents)					
	10,000 to 19,999	20,000 to 49,999	50,000 to 99,999	100,000 to 499,999	500,000 or more	Distribution of the population[1]
Regions of origin (residents)			%			
10,000 to 19,999	7.3	15.0	16.4	21.6	39.6	1.8
20,000 to 49,999	3.9	13.9	11.8	25.1	45.2	6.3
50,000 to 99,999	4.8	10.9	10.3	27.1	47.0	7.0
100,000 to 499,999	3.0	9.9	11.5	22.4	53.2	20.0
500,000 or more	3.0	8.8	10.8	30.9	46.6	64.9

CA Census agglomeration
CMA Census metropolitan area
1. Average distribution of the population from 2000 to 2008.
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2008.

Table 3 Unemployment rate and average hourly earnings of regions of origin and regions of destination for migrants age 20 to 54 whose region of origin is a CA or CMA with less than 500,000 residents

	Before migration		After migration
		%	
Regional unemployment rate[1]	6.8		6.6
		$ per hour	
Regional average hourly earnings[1]	17.70		18.30
Difference in relation to national average			
		percentage points	
Unemployment rate	-0.2		-0.2
		$ per hour	
Earnings	-0.50		-0.50

CA Census agglomeration
CMA Census metropolitan area
1. The unemployment rate and average hourly earnings before migration (*t-1*) are compared to the national average at *t-1*, whereas those after migration are compared to the national average at *t*.

Sources: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2008; Labour Force Survey, 1999 to 2008.

The same holds true for regional average hourly earnings. Although migrants left regions with slightly lower hourly earnings, they tended to move to regions where there was a similar gap in hourly earnings ($-0.50/hour) in relation to the national average.

Little influence of regional economic shocks but strong influence of changes in personal income

The estimated impact of the effect of regional economic shocks on migration using regression models are presented below (see *Logistic regression models*).

Changes in regional economic conditions appear to have a negligible impact on the probability of residents migrating, except when their own income is affected, in which case the probability of migration increases considerably.

Residents of a region where the unemployment rate increases by one percentage point in relation to the national average between two years have almost the same probability of migration as residents of regions where the unemployment rate remains similar to the national average during those two years. In both instances, the probability of migration is about 6.0% (Table 4).

The same conclusion can be reached with regard to changes in regional average hourly earnings. Those living in a region where hourly earnings decrease by $1/hour in relation to the national average between two years are only slightly more likely to migrate than those living in a region where regional average hourly earnings remain the same as in the rest of the country. The migration probability is between 5.8% and 6.0% depending on the situation.

However, changes in individuals' incomes have a major impact on the probability of migration. People whose incomes decline by 30% or more between two years, when the income level of these individuals in the two previous years is taken into account, are 82% more likely to leave their CA or CMA the following year than individuals whose incomes remain stable. In other words, people who experience a deterioration of their personal economic situation compared to others are more likely to migrate than persons whose economic situation remains unchanged.

Individuals whose income falls by a smaller proportion are also more likely to migrate than people whose incomes remain stable, but the difference is smaller. For example, people whose incomes decrease by 20% or more but less than 30% are 49% more likely to migrate than individuals whose incomes remain stable. Thus, the greater the decline in income, the more incentive there is to migrate.

It should be noted that increases in income are also associated with a greater migration probability, although the relationship is much weaker than for equivalent decreases in income. For example, persons whose incomes rise by 30% or more between two years are 46% more likely to migrate than persons whose incomes do not change. Results for men and women are similar, both in the case of regional economic shocks and changes in personal income.

Previous studies have shown that, on average, migrants experience higher increases in earnings than non-migrants, especially among those who leave one of the Atlantic provinces, Quebec or Saskatchewan (Bernard et al. 2008, Finnie

Table 4 Probability of migration, persons age 20 to 54 living in a CA or CMA with less than 500,000 residents

	Total		Men		Women	
	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability
	%	ratio	%	ratio	%	ratio
Baseline probability[1]	**6.0**	...	**6.1**	...	**5.6**	...
Regional unemployment rate at *t-1*						
Difference of one point with the entire country, at *t-1* (ref. no difference)	6.0	0.99*	6.1	0.99*	5.5	0.99*
Regional average hourly earnings at *t-1*						
Difference of $1/hour with the entire country, at *t-1* (ref. no difference)	5.8	0.97*	6.0	0.97*	5.4	0.97*
Change in income between *t-2* and *t-1*						
Gain of 30% or more	8.8	1.46*	9.2	1.50*	8.0	1.43*
Gain of 20% to less than 30%	7.5	1.25*	7.9	1.28*	6.7	1.21*
Gain of 10% to less than 20%	7.1	1.19*	7.4	1.20*	6.5	1.17*
Gain of 5% to less than 10%	6.6	1.09*	6.7	1.09*	6.0	1.09*
No change (between -5% and +5%)	ref.	ref.	ref.	ref.	ref.	ref.
Loss of 5% to less than 10%	6.8	1.13*	6.8	1.11*	6.4	1.16*
Loss of 10% to less than 20%	7.8	1.30*	8.0	1.29*	7.3	1.31*
Loss of 20% to less than 30%	9.0	1.49*	9.1	1.48*	8.4	1.52*
Loss of 30% or more	10.9	1.82*	11.0	1.78*	10.4	1.87*

* significantly different from the baseline probability at the 5% level
CA Census agglomeration
CMA Census metropolitan area
1. The model also includes the following variables (the reference category, used to calculate probabilities, is in parentheses): differences between regional and national unemployment rates at *t-2* and *t-3* (no difference), differences between regional and national hourly earnings at *t-2* and *t-3* (no difference), the income quintile at *t-2* (third quintile), the income quintile at *t-3* (third quintile), age (25 to 34 years), sex (male), province and distance from a large CMA (Ontario, less than 100 km), population of the CA or CMA (CMA with less than 500,000 residents), family type (couple without children) and year (2008).

Sources: Statistics Canada, Longitudinal Administrative Databank, 1997 to 2008; Labour Force Survey, 1997 to 2008.

2004). The results presented in this study indicate that migration enables many people to improve their economic situation. However, the analysis does not give any indication that people are more likely to migrate following a negative regional shock if their own economic situation remains stable. The indirect effects of a perceived weakening on an individual's economic outlook would therefore be very low, unless they were offset by other unobserved phenomena. However, this result is consistent with the findings of a previous study showing that provincial economic shocks had little impact on net provincial migration rates (Coulombe 2006).

People age 35 to 54 more likely to migrate following a change in income

The analysis by age group does not reveal any divergence from the general findings regarding the impact of regional economic shocks on migration. Whether those age 20 to 34, 35 to 44 or 45 to 54 are considered, changes in the regional unemployment rate or in regional average hourly earnings in relation to the national average do not significantly change the probability that residents will migrate (Table 5).

On the other hand, persons age 35 to 44 and 45 to 54 are more likely to migrate following a decline in their personal incomes than persons age 20 to 34.

Logistic regression models

When an economic shock hits a particular region, it can be expected that the regional unemployment rate will increase but that the unemployment rate for the rest of the country will remain essentially unchanged. Similarly, the wages in the affected region will likely drop[11] while wages in the rest of the country will remain practically unchanged.

To reflect this situation in the models, the probability of an individual migrating from year *t-1* to *t* is based on the differences between the regional and national unemployment rates at *t-1*, *t-2* and *t-3,* and the differences between regional and national average hourly earnings at *t-1*, *t-2* and *t-3*. This allows the impact of an increase (decrease) of one percentage point in the regional unemployment rate in relation to the national average between two years on the probability of an individual migrating to be measured. In the same way, the effect of an increase (decrease) of one dollar in regional average hourly earnings in relation to the national average between two years on the probability of an individual migrating can be measured. The model therefore explicitly measures the effect of asymmetric regional economic shocks and not the effect of shocks on the entire country, which might occur, for example, in the case of a general recession throughout the country. The variables of interest are the unemployment rate and average hourly earnings at *t-1*. The variables at *t-2* and *t-3* are added to ensure that a positive or negative difference at *t-1* reflects an economic shock as much as possible and not a pre-existing trend in the regional unemployment rate or average hourly earnings.

Using the same principle, the model also includes changes in personal income between *t-2* and *t-1*. In this way, the impact of an individual's income increasing or decreasing by different percentages from *t-2* to *t-1* on the probability of migrating from *t-1* to *t* can be measured. Once again, to ensure that these changes are not merely reflecting pre-existing income trends, the income quintile at *t-2* and *t-3* is also included in the model. In other words, this specification makes it possible to test the hypothesis that a person whose income was comparable to that of other Canadians at *t-3* and *t-2* but who experiences a major drop in income the following year will be more inclined to migrate.

Lastly, the model takes various individual and regional characteristics at *t-1* that may affect migration probability into account: age, sex, immigrant status, family type, size of the population of the CA or CMA, province and distance from a large CMA, and year.

More specifically, the model, which is estimated using logistic regressions, is specified as follows:

Prob $(\text{mig}_{i,r,t}=1)$ = f ((Regional unemployment rate – National unemployment rate)$_{t-1}$,
(Regional unemployment rate – National unemployment rate)$_{t-2}$,
(Regional unemployment rate – National unemployment rate)$_{t-3}$,
(Regional average hourly earnings – National average hourly earnings)$_{t-1}$,
(Regional average hourly earnings – National average hourly earnings)$_{t-2}$,
(Regional average hourly earnings – National average hourly earnings)$_{t-3}$,
Change in income$_{i,\ t-2\ \text{to}\ t-1}$,
Income quintile$_{i,\ t-2}$,
Income quintile$_{i,\ t-3}$,
$X'_{i,t-1}$, $X'_{r,\ t-1}$, Year$_t$).

Thus, the probability of an individual *i* migrating from one region *r* between *t-1* and *t* is a function of the differences between the regional national unemployment rates at *t-1, t-2 and t-3*, the differences between the regional and national average hourly earnings at *t-1, t-2 and t-3,* changes in the individual's income between *t-2* and *t-1*, the individual's income quintile at *t-2* and *t-3*, individual characteristics X_i at *t-1* and regional characteristics X_r at *t-1*. Since the databank is organized in person years, dummy variables representing the year of migration (from 2000 to 2008) are also included.

The individual characteristics X_i considered are

- age group at *t-1*, where the age groups are 20 to 24 years, 25 to 34 years, 35 to 44 years and 45 to 54 years
- sex at *t-1*
- family type at *t-1*, where the categories are couples with children (youngest child is under 12 years), couples with children (youngest child is 12 years or over), couples without children, lone parents, persons living alone, filing child.

The regional characteristics X_r considered are

- size of the population of the CA at *t-1*, where the population size groups are 50,000 to 99,999 and 100,000 to 499,999.
- the province of the CA or CMA of residence and its distance[12] from a CMA of 500,000 or more at *t-1*, where the categories are
  - Newfoundland and Labrador
  - Prince Edward Island
  - Nova Scotia
  - New Brunswick
  - Quebec, less than 100 km from Québec or Montréal
  - Quebec, between 100 km and 250 km from Québec or Montréal
  - Quebec, more than 250 km from Québec or Montréal
  - Ontario, less than 100 km from Ottawa–Gatineau, Toronto or Hamilton
  - Ontario, between 100 km and 250 km from Ottawa–Gatineau, Toronto or Hamilton
  - Ontario, more than 250 km from Ottawa–Gatineau, Toronto or Hamilton
  - Manitoba
  - Saskatchewan
  - Alberta, less than 100 km from a Calgary or Edmonton CMA
  - Alberta, between 100 km and 250 km from a Calgary or Edmonton CMA
  - Alberta, more than 250 km from a Calgary or Edmonton CMA
  - British Columbia, less than 100 km from Vancouver
  - British Columbia, between 100 km and 250 km from Vancouver
  - British Columbia, more than 250 km from Vancouver.

Logistic regression models (concluded)

Distance can represent a major impediment to mobility. Migration over a very long distance can be monetarily costly and have a more substantial impact on a personal level. In contrast, in communities in southwest Ontario, close to the large CMAs of Toronto or Hamilton, which have the highest population densities in the country, migration from one region to another may be much less costly.[13] Consequently, to ensure that the effect of economic conditions on the probability of migration do not merely reflect a distance effect, this element has been taken into account.

Separate regressions were also run by age group, sex and immigrant status.

LAD unfortunately does not contain any data on level of education and labour force status. Level of education is positively associated with migration (Dion and Coulombe 2008) and would therefore have been included as a variable in the modelling if it had been available. In addition, although significant reductions in income are often involuntary and may be the result of a layoff or employment difficulties, especially if income had been stable in the previous two years, this is not always the case. Reductions in income can be the result of a voluntary retirement from the labour force or a reduction in the number of hours worked. Unfortunately, it is not possible to distinguish the effect of voluntary and involuntary decreases in income on migration with these data.[14]

Table 5 Probability of migration by age group, persons age 20 to 54 living in a CA or CMA with less than 500,000 residents

	20 to 34 years		35 to 44 years		45 to 54 years	
	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability
	%	ratio	%	ratio	%	ratio
Baseline probability[1]	**5.8**	...	**3.6**	...	**2.9**	...
Regional unemployment rate at *t-1*						
Difference of one point with the entire country, at *t-1* (ref. no difference)	5.8	0.99*	3.6	0.99*	2.9	0.99*
Regional average hourly earnings at *t-1*						
Difference of $1/hour with the entire country, at *t-1* (ref. no difference)	5.6	0.97*	3.6	1.00*	2.8	0.96*
Change in income between *t-2* and *t-1*						
Gain of 30% or more	8.2	1.41*	5.3	1.48*	4.5	1.57*
Gain of 20% to less than 30%	7.0	1.20*	4.5	1.25*	3.7	1.30*
Gain of 10% to less than 20%	6.7	1.15*	4.3	1.20*	3.4	1.19*
Gain of 5% to less than 10%	6.2	1.07*	4.0	1.10*	3.1	1.07*
No change (between -5% and +5%)	ref.	ref.	ref.	ref.	ref.	ref.
Loss of 5% to less than 10%	6.4	1.11*	4.2	1.16*	3.3	1.13*
Loss of 10% to less than 20%	7.3	1.26*	4.7	1.31*	3.9	1.35*
Loss of 20% to less than 30%	8.0	1.38*	5.8	1.60*	4.7	1.62*
Loss of 30% or more	9.5	1.64*	7.4	2.06*	5.7	1.98*

* significantly different from the baseline probability at the 5% level
CA Census agglomeration
CMA Census metropolitan area
1. The model also includes the following variables (the reference category, used to calculate probabilities, is in parentheses): differences between regional and national unemployment rates at *t-2* and *t-3* (no difference), differences between regional and national hourly earnings at *t-2* and *t-3* (no difference), the income quintile at *t-2* (third quintile), the income quintile at *t-3* (third quintile), age (25 to 34 years), sex (male), province and distance from a large CMA (Ontario, less than 100 km), population of the CA or CMA (CMA with less than 500,000 residents), family type (couple without children) and year (2008).

Sources: Statistics Canada, Longitudinal Administrative Databank, 1997 to 2008; Labour Force Survey, 1997 to 2008.

Individuals age 35 to 44 and 45 to 54 whose incomes drop 30% or more between two years are respectively 106% and 98% more likely to leave their CA or CMA than people in the same age group whose incomes remain stable. The likelihood increases by 64% for those between the ages of 20 and 34.

This result may be explained by the fact that the earnings of middle-aged people, follow, on average, a relatively stable, upward trajectory (Hébert and Luong 2009). Decreases in income in this age group could be more likely to come from layoffs, which could prompt many of these individuals to migrate. In contrast, for younger individuals, reductions in income may be the result of voluntary cutbacks in hours worked, parental leave or part-time studies. Unfortunately, differences between voluntary and involuntary reductions in income cannot be distinguished with the data used. Regardless, the data presented in this study do not accord with the generally observed greater mobility of young people (Dion and Coulombe 2008) associated with a greater sensitivity to changes in economic conditions or personal income.

Table 6 Probability of migration of recent immigrants, age 20 to 54 living in a CA or CMA with less than 500,000 residents

	Total		Men		Women	
	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability
	%	ratio	%	ratio	%	ratio
Baseline probability[1]	**7.4**	...	**7.2**	...	**6.7**	...
Regional unemployment rate at *t-1*						
Difference of one point with the entire country, at *t-1* (ref. no difference)	8.1	1.10*	8.0	1.11*	7.3	1.08*
Regional average hourly earnings at *t-1*						
Difference of $1/hour with the entire country, at *t-1* (ref. no difference)	7.4	1.01	7.0	0.98	7.0	1.03
Change in income between *t-2* and *t-1*						
Gain of 30% or more	8.3	1.12*	7.8	1.10	7.7	1.15
Gain of 20% to less than 30%	7.6	1.03	7.3	1.03	7.0	1.04
Gain of 10% to less than 20%	7.7	1.04	7.2	1.00	7.4	1.10
Gain of 5% to less than 10%	7.3	0.99	6.8	0.95	7.0	1.04
No change (between -5% and +5%)	ref.	ref.	ref.	ref.	ref.	ref.
Loss of 5% to less than 10%	8.8	1.19*	8.3	1.16	8.3	1.24
Loss of 10% to less than 20%	7.6	1.03	7.1	1.00	7.3	1.08
Loss of 20% to less than 30%	9.2	1.25*	9.0	1.26	8.5	1.26*
Loss of 30% or more	12.6	1.71*	12.2	1.70*	11.7	1.74*

* significantly different from the baseline probability at the 5% level
CA Census agglomeration
CMA Census metropolitan area
1. The model also includes the following variables (the reference category, used to calculate probabilities, is in parentheses): differences between regional and national unemployment rates at *t-2* and *t-3* (no difference), differences between regional and national hourly earnings at *t-2* and *t-3* (no difference), the income quintile at *t-2* (third quintile), the income quintile at *t-3* (third quintile), age (25 to 34 years), sex (male), province and distance from a large CMA (Ontario, less than 100 km), population of the CA or CMA (CMA with less than 500,000 people), family type (couple without children) and year (2008).

Sources: Statistics Canada, Longitudinal Administrative Databank, 1997 to 2008; Labour Force Survey, 1997 to 2008.

For all age groups, an increase in income of 30% or more is once again associated with a greater probability of migration, but to a lesser degree than for equivalent decreases in income.

Immigrants more sensitive to variations in regional economic conditions and to changes in income

So far, changes in regional economic conditions have been shown to have no significant effect on the probability of migration of the population of a region as a whole. However, these results are somewhat different for recent immigrants—those who have been living in the country 10 years or less.

Immigrants living in a region where the unemployment rate increases by one percentage point in relation to the national average between two years are 10% more likely to migrate than immigrants living in a region where the unemployment rate remains similar to the national average. Thus, a regional economic shock has a relatively small, but significant, impact on the probability that immigrants will leave their CA or CMA (Table 6). The results are similar for men and women.[10]

Like other Canadians, immigrants whose incomes drop significantly will migrate in larger numbers. Immigrants who experience a 30% or more decrease in income between two years were 71% more likely to leave their CA or CMA the following year than immigrants whose incomes remained stable. The impact of changes in income on migration probability is therefore relatively less important for immigrants than for Canadians in general, but, immigrants are more likely to react to changes in regional economic conditions.

It has been shown that immigrants are more mobile than other Canadians (Dion and Coulombe 2008). The findings in this section suggest that part of this greater mobility may be explained by greater sensitivity to changes in regional economic conditions.

Conclusion

The main objective of this study was to determine if there is a link between regional economic shocks and the migration of residents. The analysis primarily looked at census agglomerations (CA) and census metropolitan areas (CMA) with less than 500,000 residents.

This analysis began by showing that residents of CAs and CMAs with a population under 500,000 were much more likely to migrate than those in large metropolitan centres. In 2008, for example, the migration rate of people age 20 to 54 living in a CA of 10,000 to 19,999 was 7.9%, whereas it was only 2.3% for people of the same age living in a CMA of 500,000 or more.

When they leave, these individuals rarely move to a CA or CMA with a population similar to their CA or CMA of origin. Instead, they are the most likely to go to large metropolitan centres. However, after their migration, migrants from the smallest CMAs or CAs remain less likely than the population in general to live in a large CMA.

The analysis showed that residents of CAs or CMAs of under 500,000 were not generally influenced by regional economic shocks when their personal income was not affected. These economic shocks were measured by changes in regional unemployment rates and regional average hourly earnings in relation to the national average. This finding applies to both men and women as well as to both younger and older residents.

There is one notable exception. Unlike other Canadians, recent immigrants were somewhat more likely to move in the event of a regional economic shock. For example, an increase of one percentage point in the regional unemployment rate in relation to the national average between two years is associated with a 10% increase in the probability that immigrants will migrate, even when personal income does not change.

As for changes in personal income, they had a major impact on the migration of all groups. Individuals whose income drops by 30% or more between two years were, on average, 82% more likely to migrate than people whose income remained stable during those two years. For persons between the ages of 35 and 54, the effect is even greater.

The findings in this study have some application to public policy. First, they highlight the greater mobility of the populations of Canada's smallest cities. Unfortunately, our data do not allow us to say with certainty the degree to which these individuals left their regions for strictly economic reasons. However, results indicate that people react to changes in their personal economic situations. In other words, someone who experiences a drop in income will look to improve his or her circumstances and, often, will consider migration.

Appendix

CAs and CMAs by population-size category

CA with a population from 10,000 to 19,999
Amos (Que.)
Bay Roberts (N.L.)
Campbellton (N.B./Que.)
Camrose (Alb.)
Canmore (Alb.)
Cobourg (Ont.)
Cold Lake (Alb.)
Collingwood (Ont.)
Cowansville (Que.)
Dawson Creek (B.C.)
Dolbeau–Mistassini (Que.)
Elliot Lake (Ont.)
Estevan (Sask.)
Grand Falls–Windsor (N.L.)
Hawkesbury (Ont./Que.)
Ingersoll (Ont.)
Kenora (Ont.)
Kitimat (B.C.)
La Tuque (Que.)
Lachute (Que.)
Matane (Que.)
North Battleford (Sask.)
Okotoks (Alb.)
Petawawa (Ont.)
Port Hope (Ont.)
Powell River (B.C.)
Prince Rupert (B.C.)
Salmon Arm (B.C.)
Squamish (B.C.)
Summerside (P.E.I.)
Swift Current (Sask.)
Temiskaming Shores (Ont.)
Terrace (B.C.)
Thompson (Man.)
Tillsonburg (Ont.)
Wetaskiwin (Alb.)
Williams Lake (B.C.)
Yellowknife (N.W.T.)
Yorkton (Sask.)

CA with a population from 20,000 to 49,999
Alma (Que.)
Baie-Comeau (Que.)
Bathurst (N.B.)
Brandon (Man.)
Brockville (Ont.)
Brooks (Alb.)
Campbell River (B.C.)
Centre Wellington (Ont.)
Corner Brook (N.L.)
Courtenay (B.C.)
Cranbrook (B.C.)
Duncan (B.C.)
Edmundston (N.B.)
Fort St. John (B.C.)
Joliette (Que.)
Kentville (N.S.)
Leamington (Ont.)
Lloydminster (Alb./Sask.)
Midland (Ont.)
Miramichi (N.B.)
Moose Jaw (Sask.)
New Glasgow (N.S.)
Orillia (Ont.)
Owen Sound (Ont.)
Parksville (B.C.)
Pembroke (Ont.)
Penticton (B.C.)
Port Alberni (B.C.)
Portage la Prairie (Man.)
Prince Albert (Sask.)
Quesnel (B.C.)
Rimouski (Que.)
Rivière-du-Loup (Que.)
Rouyn-Noranda (Que.)
Saint-Georges (Que.)
Salaberry-de-Valleyfield (Que.)
Sept-Îles (Que.)
Sorel-Tracy (Que.)
Stratford (Ont.)
Thetford Mines (Que.)
Timmins (Ont.)
Truro (N.S.)
Val-d'Or (Que.)
Victoriaville (Que.)
Whitehorse (Y.T.)
Woodstock (Ont.)

CA with a population from 50,000 to 99,999
Belleville (Ont.)
Cape Breton (N.S.)
Charlottetown (P.E.I.)
Chatham–Kent (Ont.)
Chilliwack (B.C.)
Cornwall (Ont.)
Drummondville (Que.)
Fredericton (N.B.)
Granby (Que.)
Grande Prairie (Alb.)
Kamloops (B.C.)
Kawartha Lakes (Ont.)
Lethbridge (Alb.)
Medicine Hat (Alb.)
Nanaimo (B.C.)
Norfolk (Ont.)
North Bay (Ont.)
Prince George (B.C.)
Red Deer (Alb.)
Saint-Hyacinthe (Que.)
Saint-Jean-sur-Richelieu (Que.)
Sarnia (Ont.)
Sault Ste. Marie (Ont.)
Shawinigan (Que.)
Vernon (B.C.)
Wood Buffalo (Alb.)

CMA with a population from 100,000 to 499,999
Abbotsford (B.C.)
Barrie (Ont.)
Brantford (Ont.)
Greater Sudbury / Grand Sudbury (Ont.)
Guelph (Ont.)
Halifax (N.S.)
Kelowna (B.C.)
Kingston (Ont.)
Kitchener (Ont.)
London (Ont.)
Moncton (N.B.)
Oshawa (Ont.)
Peterborough (Ont.)
Regina (Sask.)
Saguenay (Que.)
Saint John (N.B.)
Saskatoon (Sask.)
Sherbrooke (Que.)
St. Catharines–Niagara (Ont.)
St. John's (N.L.)
Thunder Bay (Ont.)
Trois-Rivières (Que.)
Victoria (B.C.)
Windsor (Ont.)

CMA with a population of 500,000 or more
Calgary (Alb.)
Edmonton (Alb.)
Hamilton (Ont.)
Montréal (Que.)
Ottawa–Gatineau (Ont./Que.)
Québec (Que.)
Toronto (Ont.)
Vancouver (B.C.)
Winnipeg (Man.)

CA Census agglomeration
CMA Census metropolitan area

Conversely, when personal income does not change, people react very little to changes in regional economic conditions. Thus, the effects of regional economic shocks would be present, but direct and not indirect.

Immigrants present an interesting exception. Unlike other Canadians, they were more inclined to migrate as a result of changes in regional economic conditions, even if their income remained constant. Many Canadian communities have policies in place to attract and retain immigrants. The results of this study indicate that economic considerations play a role in an immigrant's decision on where to live.

Perspectives

Notes

1. One study showed that interprovincial migration resulted in a redistribution of human capital from the less wealthy and less urbanized provinces to the wealthier, more urbanized provinces (Coulombe 2006).

2. At the federal level, agencies have been created to promote regional economic development, particularly outside large metropolitan centres. These agencies include the Atlantic Canada Opportunities Agency, the Economic Development Agency of Canada for the Regions of Quebec, the Federal Economic Development Agency for Southern Ontario and Western Economic Diversification Canada. Issues related to regional economic development are equally important at the provincial level. See Joanis et al. (2004) for a discussion of regional development policies in Quebec.

3. In the United States, studies on the relationship between economic shocks and migration have looked mainly at the migration between states. For example, Cebula (2005) shows that the ability of a state to attract migrants was an increasing function of its income per person and its employment rate. In contrast, Anjomani (2002) finds no significant link between, on the one hand, growth in employment and a state's revenue and, on the other hand, its net migration rate.

4. According to two studies, the probability of migrating to another province is related to the provincial unemployment rate. The results of those studies show that an increase of one percentage point in a province's unemployment rate is associated with a 10% increase in the probability that residents of that province will migrate (Bernard et al. 2008 and Finnie 2004). According to another study, interprovincial migration depends more on long-term structural characteristics than on short-term local economic shocks (Coulombe 2006). Finally, another study showed that immigrants had reacted strongly to the increased demand for labour in Alberta during the five years following 2000 by becoming more inclined to move there (Ostrovsky et al. 2008).

5. Rural areas and towns with less than 10,000 residents are not included in this study. For an analysis of the migration profile of those regions, see Rothwell et al. (2002).

6. Nationally, this was a period of economic growth dominated by a generally downward trend in unemployment until the start of the economic slowdown in 2008. This period was characterized, however, by a sharp drop in manufacturing employment, which hit many communities with a high concentration of employment in that sector particularly hard (Langevin 2010).

7. The choice of the period covered by the analysis was established largely on the basis of the data limitations. The most recent year available in the Longitudinal Administrative Databank (LAD) at the time of this study was 2008. In addition, 1997 was the first year of data on wages available in the Labour Force Survey (LFS). Since lagged values *t-1*, *t-2* and *t-3* for average hourly wages were used, the first possible migration period is from 1999 to 2000.

8. The postal code is provided by the tax filer on his or her income tax return, generally before April 30 each year. However, the time can vary from one individual to another, adding a degree of imprecision to this study's measurement of migration.

9. The sample of CAs and CMAs of origin is limited to CAs and CMAs of 50,000 or more and less than 500,000. However, the sample of CAs and CMAs of destination includes all CAs and CMAs of 50,000 or more.

10. Regressions were also run by immigrants' level of education on arrival. Results are similar when samples of immigrants who arrived in Canada with or without a university degree are considered (data not shown). An interesting possibility for future analysis would be to examine the role of the characteristics of immigrants on arrival on the relationship between regional economic shocks and migration.

11. An increase in unemployment is normally triggered by a drop in the demand for labour, which in turn puts downward pressure on wages.

12. This is the distance, in kilometres, between the CA or CMA and the closest CMA of 500,000 or more. Google Map was used to estimate the distance. When there was more than one route to the closest large CMA, the

shortest route was selected. Distances are generally from downtown to downtown. In the case of the municipality of Wood Buffalo in Alberta, which covers a large territory, the community of Fort McMurray (the most populous) was used as the point of origin.

13. This variable of distance from large metropolitan centres may also be seen as a substitute for population density in a given radius around the region. Small and medium-sized centres often tend to develop close to large metropolitan centres so that, in general, the farther one is from such centres the less dense the population.

14. Taking the effect of unobserved variables into account by running random effects models (which look at omitted heterogeneity) was considered. However, such models are based on the assumption that unobserved variables are not correlated with variables already in the model, in which case the coefficients of interest may be biased. Since education and labour force status are normally strongly correlated with income, a key variable included in the model, this technique was not used for this analysis.

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In the works

Some of the topics in upcoming issues

Consumer debt in Canada

The article will examine the growth and the changing composition of consumer debt in Canada between 1982 and 2008. It will also highlight the differences in financial liability (i.e., debt payment as a percentage of disposable income), spending, and saving patterns between households owing consumer debt only, and those owing both consumer and mortgage debt. Most of the analysis is based on the 2008 Survey of Household Spending.

Job-related training by older workers from age 55 to 64

This paper will examine the factors influencing job-related training on the retention of older workers in the labour force, including current and changing trends, barriers to training, and sociodemographic issues. The data source used will be the 2008 Access and Support to Education and Training Survey.

The evolution of wealth over the life cycle

This paper will study the evolution of the financial wealth of Canadians over their life cycle by using a synthetic cohort approach on a variety of cross-sectional wealth data sources.

Labour market allocation after the downturn

Using the most recent sources of labour data, this paper will study which areas and groups have been most impacted by employment changes in the aftermath of the recent downturn. It will also provide comparisons with the previous downturns.

Seniors returning to Canada

While Canada is primarily viewed as an immigrant-receiving country, many Canadians emigrate for career and other considerations each year. This article uses the census to focus on the return of emigrants in their senior years, comparing their labour market participation, demographic characteristics and receipt of transfer payments to other Canadians.

Voting patterns

Voter turnout rates in Canada have been declining in recent decades and are low compared to those in many OECD countries. This study makes use of a special supplement to the Labour Force Survey to examine the characteristics of voters versus non-voters, particularly those who reported they were too busy to vote.

Perspectives

What's new?

Recent reports and studies

From Statistics Canada

Lay offs during recessions

In Canada, total employment fell by more than 400,000 between October 2008 and July 2009. Using data from the Labour Force Survey, this study looks at which workers were laid off during the most recent downturn and how they differ from their counterparts who were laid off during recessions in the 1980s and 1990s.

The recent downturn had lower layoff rates and higher short-term re-employment rates than the previous two recessions. Workers were also laid off for a shorter duration.

Compared to the previous two recessions, workers laid off in the most recent downturn were older, better-educated, and less likely to come from the manufacturing sector. However, differences were mainly due to changes in the age–education profile of the Canadian workforce.

For more on this subject, see the full article *Workers Laid-off During the Last Three Recessions: Who Were They, and How Did They Fare?* Analytical Studies Branch Research Paper Series, Statistics Canada, September 2011. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2011337-eng.pdf.

Commuting to work

In 2010, Canadian workers averaged 26 minutes commuting to work on a typical day. Travelling times were longer for workers living in large metropolitan areas. This article uses the 2010 General Social Survey on Time Use to examine various facets of travelling between home and work.

Almost 20% of full-time workers experienced traffic congestion every work day while over one-half of full-time workers reported never being caught in traffic jams while commuting to work.

Regardless of the size of metropolitan areas, public transit users spent more time computing than car users. Results indicate the difference is not due to distance as public transit users typically travel shorter distances.

The majority of respondents were satisfied with commuting times, although 15% of workers reported being dissatisfied.

To view this article, see "Commuting to work: Results of the 2010 General Social Survey," *Canadian Social Trends*, Statistics Canada, August 2011. http://www.statcan.gc.ca/pub/11-008-x/2011002/article/11531-eng.pdf.

Canadian labour force in 2031

Based on five projection scenarios with varying assumptions about population growth and age-specific participation rates, this article projected how the Canadian labour force might change from 2010 to 2031.

According to these scenarios, the labour force is projected to reach between 20.5 and 22.5 million by 2031, from 18.5 million in 2010. The participation rate of those 15 years of age and over is projected to fall from 67.0% to between 59.7% and 62.6%. In addition, there could be as few as 3 persons in the labour force for every person age 65 and over and not in the labour force. In 2010, this ratio was about 5 to 1.

The decline in the overall participation rate and the ratio of the labour force to non-working seniors can be explained by the gradual movement of the baby boomers into retirement and smaller replacement cohorts. Trends are not significantly altered by increases in immigration, fertility, or higher educational attainments. However, continuation of the rise in seniors' participation rates could delay the drop in the overall participation rate.

For more information on this subject, refer to "Projected trends to 2031 for the Canadian labour force," *Canadian Economic Observer*, Statistics Canada, August 2011. http://www.statcan.gc.ca/pub/11-010-x/2011008/part-partie3-eng.htm.

Self-employment dynamics

This paper asks how and why the transition rates for males between non-employment, paid employment, own-account self-employment, and self-employment with paid help changed between the 1990s and the 2000s.

The study found that the self-employed were much less likely to move back into paid employment in the 2000s than they were in the 1990s. Model results indicate that this increased stability was not due to demographic change or changes in the industrial and occupational structure.

The greater stability of the self-employed sector in the 2000s has likely contributed to an increase in productivity relative to the 1990s, when there were more new entrants and lower survival rates.

For the full results, please see *The Dynamics of Male Self-employment in Canada: Comparing the 1990s to the 2000s*, Economic Analysis Research Paper Series, Statistics Canada, October 2011. http://www.statcan.gc.ca/pub/11f0027m/11f0027m2011073-eng.htm.

Main sources of stress among workers

Based on the 2010 General Social Survey on Time Use, this article examines how workers who report being highly stressed at work differ from those with reporting other sources of stress.

About 62% of highly stressed workers identified work as the main source of their stress. These individuals were generally well-educated—almost three-quarters had a college or university education—and were employed in white-collar occupations. They also reported household incomes of $100,000 or more. The majority were men and the largest group was from age 35 to 49.

Highly stressed workers citing time stress were more likely than others to be in dual-worker families. Women accounted for two-thirds of highly stressed workers who identified family as their main source of stress.

The study was published in "What's stressing the stressed? Main sources of stress among workers." *Canadian Social Trends*, Statistics Canada, October 2011. http://www.statcan.gc.ca/pub/11-008-x/2011002/article/11562-eng.htm.

From other organizations

OECD Employment Outlook 2011

Compared to other OECD countries, Canada's labour market is recovering faster from the recent labour market downturn. Canada's unemployment rate for the second quarter of 2011 stood at 7.5% compared to the OECD average of 8.2% during the same period.

Additionally, Canada's long-term unemployment is among the lowest in the OECD countries. However, youth and low-skilled workers continued to experience lower employment rates than before the downturn. The reduction in the employment rate of youths in OECD countries is similar to that in Canada.

For details, see *OECD Employment Outlook 2011*, OECD, Paris, September 2011. http://www.oecd.org/document/46/0,3746,en_2649_33729_40401454_1_1_1_1,00.html.

How's life? Measuring well-being

Every person aspires to a good life. But what does "a good or a better life" mean? This report looks at the most important aspects that shape people's lives and well-being: income, jobs, housing, health, work–life balance, education, social connections, civic engagement and governance, environment, personal security and subjective well-being. It paints a comprehensive picture of well-being in OECD countries and other major economies by looking at people's material living conditions and quality of life across the population.

The report finds that well-being has increased on average over the past 15 years, but differences across countries are large. Furthermore, some groups of the population, particularly less-educated and low-income people, tend to fare worse in all dimensions of well-being.

The report notes that "Canada performs exceptionally well in measures of well-being, as shown by the fact that it ranks among the top countries in a large number of topics in the Better Life Index."

For complete results, please see: *How's life? Measuring well-being*, OECD, Paris, October 2011. http://www.oecd.org/document/10/0,3746,en_2649_201185_48791306_1_1_1_1,00.html.

Charting International Labor Comparisons

Responding to the demand for comparable international labour market indicators, the U.S. Bureau of Labor Statistics (BLS) produces an annual report based on consistent concepts.

The 2011 edition features 2009 data, as well as trends over time for gross domestic product, labor force, manufacturing hourly compensation costs and productivity, and consumer prices. To increase country and indicator coverage, data from other organizations also are included.

Country coverage has been expanded in this edition, particularly for emerging economies.

The indicators are published in *Charting International Labor Comparisons (2011 Edition)*, Bureau of Labour Statistics, United States. August 2011. http://www.bls.gov/fls/chartbook.htm.

Perspectives

Varia

In this issue: Gambling and Unionization 2011

Previous updates

Retirement – Summer 2006

Minimum wage – Summer 2010

Work absences – Summer 2011

Gambling – Winter 2011

Unionization – Winter 2011

Economic and social indicators

Property taxes – Autumn 2003

Provincial wealth inequality – Spring 2005

Tourism – Summer 2005

Residential construction – Autumn 2005

Education – Winter 2005

Personal debt – Spring 2007

Provincial labour force differences by education – Summer 2008

Contacts

Administrative data

Small area and administrative data
Customer Services
613-951-9720

Business surveys

Annual Survey of Manufactures and Logging
Client Services
613-951-9497

Annual surveys of service industries
Client Services
613-951-4612

Business Conditions Survey of Manufacturing Industries
Claude Robillard
613-951-3507

Census

Labour force characteristics
Sandra Swain
613-951-6908

Income statistics
Eric Olson
613-951-0220

Employment and income surveys

Labour Force Survey
Marc Lévesque
613-951-4090

Survey of Employment, Payrolls and Hours
Sylvie Picard
613-951-4003

Employment Insurance Statistics Program
Gilles Groleau
613-951-4091

Major wage settlements
Workplace Information Directorate (Human Resources and Social Development Canada)
819-997-3117 or 1-800-567-6866

Labour income
Anna MacDonald
613-951-3784

Survey of Labour and Income Dynamics
Survey of Financial Security
Survey of Household Spending
Client Services
613-951-7355 or 1-888-297-7355

General Social Survey

Education, Work and Retirement
Aging and Social Support
Time Use
Client Services
613-951-5979

Pension surveys

Pension Plans in Canada Survey
Bruno Pépin
613-951-4023

Quarterly Survey of Trusteed Pension Funds
Gregory Sannes
613-951-4034

Special surveys

Adult Education and Training Survey
Client Services
613-951-7608 or 1-800-307-3382

National Graduates Survey
Client Services
613-951-7608

Gambling 2011

- Net revenue from government-run lotteries, video lottery terminals (VLTs), casinos and slot machines not in casinos rose steadily from $2.73 billion in 1992, before levelling off and remaining at around $13.7 billion since 2007 ($13.74 billion in 2010).[1]

- Net revenue from pari-mutuel betting (horse racing) dropped from $532 million to $315 million over the same period (1992 to 2010).

- Net revenue from casinos continued to represent one-third of the gambling industry (34%) in 2010, while revenue and representation were up for lotteries (27%), stable for slot machines outside casinos (mainly at racetracks) (21%) and down for VLTs for the fifth straight year (19%).

- Average gambling revenue per person 18 and over in 2009 ranged from $120 in the three territories to $855 in Saskatchewan, with a national average of $515.[2]

- Compared with workers in non-gambling industries, those in gambling were more likely to be between age 15 and 34 (42% versus 36%), be paid by the hour (80% versus 65%), be paid less ($21.95 hourly versus $24.05), and receive tips at their jobs (27% versus 7%).

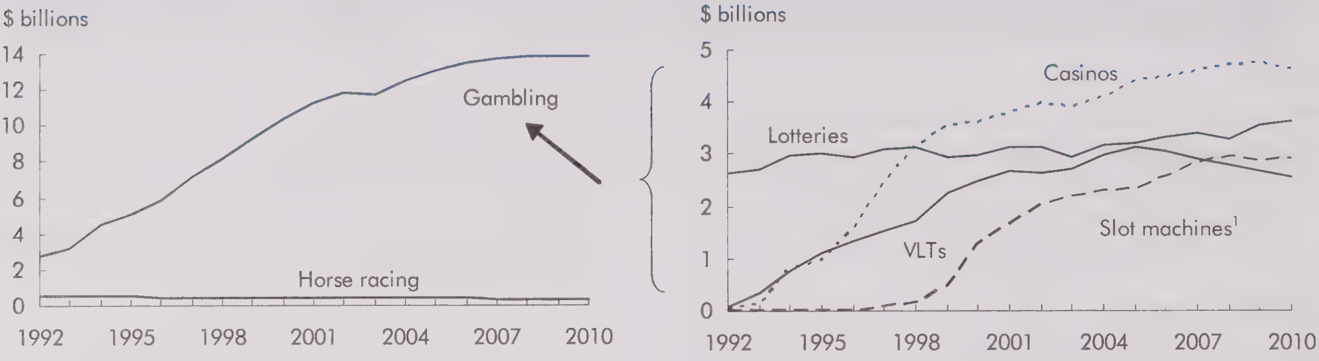
- Men increased their share of employment in the gambling industry from 35% in 1992 to 53% in 2010. Similarly the rate of full-time jobs increased from 60% to 81% between the two years.[3]

- Around 6 in 10 women and men living alone reported spending money on at least one gambling activity; however, on average men spent almost twice as much as women—$615 compared with $335.

- Gambling participation and average expenditures increased with household income. For example, 46% of households with incomes of less than $20,000 gambled in 2009 and spent an average of $390, while equivalent figures for those with incomes of $80,000 or more were 75% and $620.

For further information on any of these data, contact Katherine Marshall, Labour Statistics Division. She can be reached at 613-951-6890 or at katherine.marshall@statcan.gc.ca.

Chart A Net revenue from government-run gambling has levelled off recently



1. Refers to those found outside government-run casinos.
Source: Statistics Canada, National Accounts.

Table 1 Gambling revenues and profits

	Gambling revenue[1]		Gambling profit[2]		Share of total revenue[3]		Revenue per capita (18 and over)[4]	
	1992	2009	1992	2009	1992	2008	1992	2009
	$ millions (current)				%		$	
Canada	**2,734**	**13,752**	**1,680**	**6,634**	**1.9**	**4.4**	**130**	**515**
Newfoundland and Labrador	80	204	42	108	2.3	2.6	190	490
Prince Edward Island	20	43	7	16	2.7	3.1	210	385
Nova Scotia	125	315	72	139	2.8	3.6	180	415
New Brunswick	117	220	49	133	2.7	2.9	210	360
Quebec	693	2,772	472	1,400	1.8	3.4	130	440
Ontario	853	4,713	529	1,713	1.9	4.9	105	455
Manitoba	153	641	105	306	2.5	5.2	185	685
Saskatchewan	62	675	39	331	1.1	5.2	85	855
Alberta	225	2,110	125	1,428	1.6	5.2	120	740
British Columbia	403	2,051	239	1,054	2.2	5.5	155	570
Yukon, Northwest Territories and Nunavut	5	10	1	6	0.3	0.3	80	120

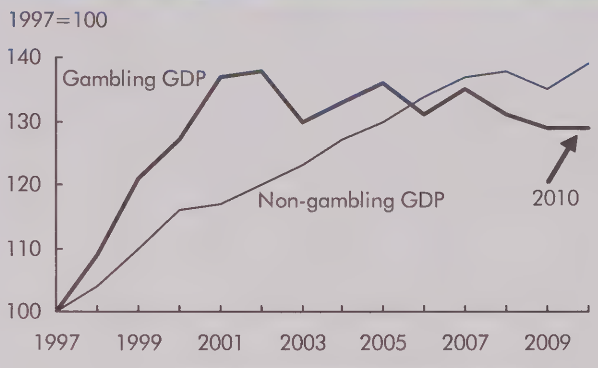
1. Total revenue from wagers on all government-controlled gambling, such as lotteries, casinos and VLTs, minus prizes and winnings. Revisions to provincial estimates will occur in November 2011.
2. Net income of provincal governments from total gambling revenue, less operating and other expenses (see Data sources and definitions).
3. The 2008 share of total revenue calculation is based on 2008 gambling revenue and 2008 total provincial revenue. The 2009 provincial revenue will be available in November 2011.
4. Persons 18 and over were selected as this is the legal age of gambling in most provinces.
Sources: Statistics Canada, National Accounts, Public Institutions (Financial management statistics) and post-censal population estimates.

Table 2 Characteristics of workers

	Gambling[1] 1992	Gambling[1] 2010	Non-gambling 1992	Non-gambling 2010
	thousand			
Total employed	**11**	**41**	**12,720**	**17,000**
	%			
Sex				
Men	35	53	55	52
Women	65	47	45	48
Age				
15 to 34	57	42	45	36
35 and over	43	58	55	64
Education				
High school or less	66	43	57	39
Postsecondary certificate or diploma	21	35	27	35
University degree	13	23	16	26
Work status				
Full-time	60	81	81	81
Part-time	40	19	19	19
Provinces				
Atlantic provinces	8	5	7	6
Quebec	F	23	24	23
Ontario	28	37	39	39
Prairies	30	23	17	19
British Columbia	25	12	13	13
Class of worker				
Employee	99	99	85	84
Self-employed	F	F	15	16

1. Employment at racetracks and 'racinos' (racetracks with slots and/or other gaming activities) is excluded. These activities are coded under 'spectator sports.'
Source: Statistics Canada, Labour Force Survey.

Chart B Gambling GDP still flat since the recent economic downturn



Note: The price, at basic prices, of the goods and services produced. The GDP figures for the gambling industry refer strictly to wagering activities, such as lottery ticket sales, VLT receipt sales, and bets at casinos. Other economic spinoffs, such as hotel and restaurant business, security services and building and equipment maintenance are not included.
Source: Statistics Canada, National Accounts.

Table 3 Characteristics of jobs

	Gambling 1997	Gambling 2010	Non-gambling 1997	Non-gambling 2010
	thousand			
Employees[1]	**33**	**41**	**11,331**	**14,330**
	%			
Unionized[2]	29	31	34	32
Non-unionized	71	69	66	68
Permanent job	91	93	89	87
Temporary job	9	7	11	13
Usually receive tips	27	27	7	7
No tips	73	73	93	93
Paid by the hour	80	80	61	65
Not paid by the hour	20	20	39	35
Average hourly earnings,[3] full-time	$			
Both sexes	13.30	21.95	16.55	24.05
Men	13.50	24.20	17.85	25.55
Women	13.05	18.85	14.80	22.25

1. More detailed questions on employees were introduced with the 1997 revision of the Labour Force Survey.
2. Includes persons who are not union members, but whose jobs are covered by collective agreements.
3. Includes tips and commissions.
Source: Statistics Canada, Labour Force Survey.

Table 4 Household expenditures on gambling activities

	At least one gambling activity		Government lotteries		Other lotteries/raffles, etc.		Casinos, slot machines and VLTs		Bingos	
	$	%	$	%	$	%	$	%	$	%
All households										
2000	490	74	245	64	85	31	545	21	745	9
2001	515	72	255	62	100	30	555	20	815	9
2002	570	73	265	63	130	30	680	21	905	8
2003	505	74	245	66	95	29	670	19	800	8
2004	515	71	265	61	100	28	665	19	805	6
2005	550	69	255	61	140	27	720	18	965	6
2006	495	73	255	64	110	28	685	19	520	6
2007[1]	645	52	280	48	125	17	850	17	790	4
2008	480	70	250	62	110	25	695	18	655	5
2009	495	67	265	58	110	26	710	17	530	6
One-person households[2]	460	57	210	49	80	17	890	13	515	6
Men	615	59	270	53	100	16	1,430	14	315	3
18 to 44	740	52	160	44	55	13	1,915	16	F	F
45 to 64	525	68	295	62	135	20	915	16	F	F
65 and over	570	57	375	55	110	14	1,165	7	F	F
Women	335	56	160	46	65	19	440	13	570	8
18 to 44	160	46	95	37	50	19	175	13	F	F
45 to 64	270	64	155	56	80	26	355	12	295	8
65 and over	475	57	200	45	50	14	670	13	715	12
All households										
Newfoundland and Labrador	425	68	290	55	95	36	310	6	575	13
Prince Edward Island	530	67	290	49	110	39	485	14	1,160	9
Nova Scotia	495	75	250	65	95	41	660	13	895	9
New Brunswick	440	70	260	60	95	35	535	9	780	9
Quebec	375	67	250	61	70	16	425	12	495	7
Ontario	490	66	280	59	115	24	595	19	370	5
Manitoba	540	75	255	61	95	41	610	25	735	8
Saskatchewan	735	76	250	62	135	51	1,315	23	720	5
Alberta	785	67	285	53	145	36	1,535	19	705	4
British Columbia	450	63	240	54	110	23	660	17	445	3
Income after tax										
Less than $20,000	390	46	170	39	65	10	845	8	625	7
$20,000 to $39,999	415	62	255	54	80	17	435	14	600	7
$40,000 to $59,999	495	70	295	60	90	26	655	17	515	6
$60,000 to $79,999	465	76	265	69	120	32	535	21	465	4
$80,000 and over	620	75	280	65	135	38	1,025	21	340	4

1. New screening questions were added in 2007 to reduce the response burden, but for some categories, including games of chance, the response rate was lower than expected. These screening questions were modified for 2008. See catalogue no. 62F0026M, no. 1 for more details.
2. Using one-person households allows examination of individual characteristics. Persons 18 and over were selected as this is the legal age for gambling in most provinces.

Note: Expenditures are per spending household. Unless otherwise indicated, figures are for 2009.
Source: Statistics Canada, Survey of Household Spending.

Data sources and definitions

Labour Force Survey: a monthly household survey that collects information on labour market activity, including detailed occupational and industrial classifications, from all persons 15 years and over.

National Accounts: The quarterly Income and Expenditure Accounts (IEA) is one of several programs constituting the System of National Accounts. The IEA produces detailed annual and quarterly income and expenditure accounts for all sectors of the Canadian economy, namely households, businesses, governments and non-residents.

Survey of Household Spending (SHS): an annual survey that began in 1997 and replaced the Family Expenditure Survey and the Household Facilities and Equipment Survey. The SHS collects data on expenditures, income, household facilities and equipment, and other characteristics of families and individuals living in private households.

Gambling industries: This industry group covers establishments primarily engaged in operating gambling facilities, such as casinos, bingo halls and video gaming terminals, or providing gambling services, such as lotteries and off-track betting. It excludes horse race tracks and hotels, bars and restaurants that have casinos or gambling machines on the premises.

Gambling profit: net income from all provincial and territorial government-controlled gambling, such as lotteries, casinos and VLTs after prizes and winnings, operating expenses (including wages and salaries), payments to the federal government, other System of National Accounts adjustments, and other expenses are deducted. Other expenses includes categories such as 'special payments' or 'win contributions,' which vary by province and can influence profit rates.

Gambling revenue: all money wagered on provincial and territorial government-run lotteries, casinos and VLTs, less prizes and winnings. Gambling revenue generated by and for charities and on Indian reserves is excluded.

Government casino: a government-regulated commercial casino. Permits, licences and regulations for casinos, both charity and government, vary by province. Government casinos, now permitted in several provinces, also vary by the degree of public and private involvement in their operations and management. Some government casinos are run entirely as Crown corporations, while others contract some operations—for example, maintenance, management or services—to the private sector.

Video lottery terminal (VLT): a coin-operated, free-standing, electronic game of chance. Winnings are paid out through receipts that are turned in for cash, as opposed to cash payments from slot machines. Such terminals are regulated by provincial lottery corporations.

Table 5 Household expenditures on all gambling activities by income group, 2009

	Average expenditure			Gaming as % of total income	
	All households	Reporting households	Percentage reporting	All households	Reporting households
	$			%	
Income after tax	**330**	**495**	**67**	**0.4**	**0.6**
Less than $20,000	180	390	46	1.3	2.7
$20,000 to $39,999	255	415	62	0.8	1.4
$40,000 to $59,999	345	495	70	0.7	1.0
$60,000 to $79,999	355	465	76	0.5	0.7
$80,000 and over	465	620	75	0.4	0.5

Source: Statistics Canada, Survey of Household Spending.

Notes

1. Refers to total money wagered on all non-charity government-controlled gambling, such as lotteries, casinos and VLTs, minus prizes and winnings.

2. Survey of Household Spending (SHS) and National Accounts rankings of provincial expenditures differ, in part because the SHS includes both charity and non-charity gambling activity.

3. Employment at racetracks and 'racinos' (racetracks with slots and/or other gaming activities) is excluded. These activities are coded under 'spectator sports.'

Unionization 2011

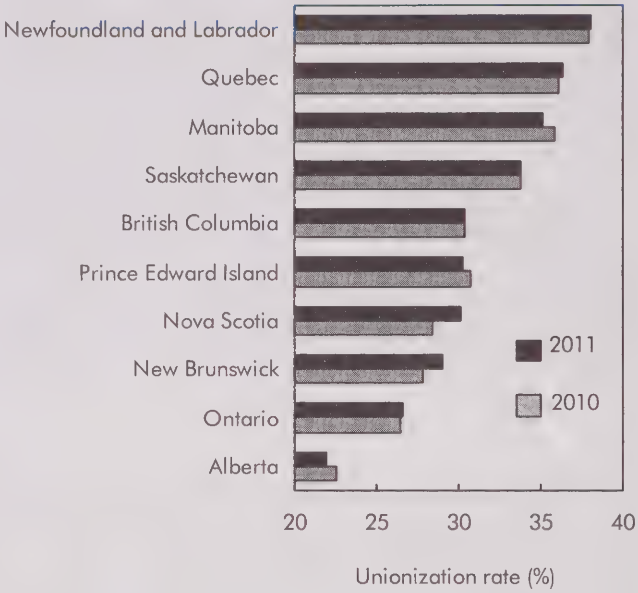
Unionization rates in the first half of 2010 and 2011

Average paid employment (employees) during the first half of 2011 was 14.5 million, an increase of 249,000 over the same period a year earlier (Table 1). The number of unionized employees also increased, by 80,000 (to 4.3 million). However, since union membership rose slightly more rapidly than employment, the unionization rate edged up from 29.6% in 2010 to 29.7% in 2011.

As women experienced disproportionately more gains in unionized jobs, their unionization rate rose to 31.1%. The unionization rate for men remained constant at 28.2%. As a result, the gap in the rates between men and women widened further in 2011.

Gains in unionized jobs were mainly part-time jobs. Unionization among full-time workers remained steady at 31.1%, while the unionization rate of part-time workers rose to 23.6% in 2011.

Chart A Newfoundland and Labrador, the most unionized province; Alberta, the least



Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Data sources

Information on union membership, density and coverage by various socio-demographic characteristics, including earnings, are from the Labour Force Survey. Further details can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at 613-951-4090. Data on strikes, lockouts and workdays lost, and those on major wage settlements were supplied by Human Resources and Skills Development Canada (HRSDC). Further information on these statistics may be obtained from Client services, Workplace Information Directorate, HRSDC at 1-800-567-6866.

The unionization rate for permanent employees decreased to 29.9%. However, it increased to 28.0% for those in non-permanent jobs. Between 2010 and 2011, the unionization rate slipped in large (100 employees or more) and small (fewer than 20 employees) firms, but rose slightly for those with 20 to 99 employees.

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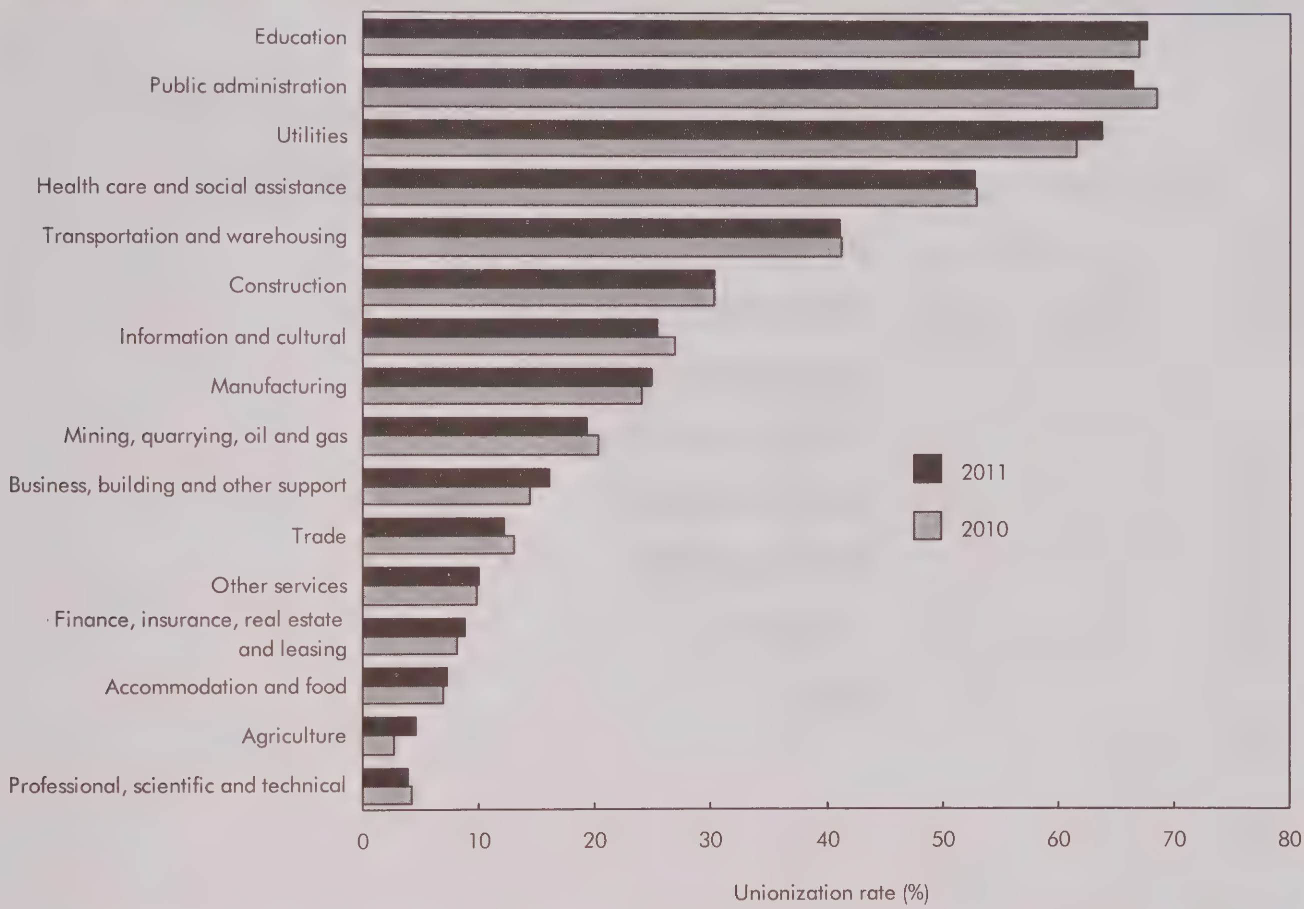
The provincial picture was mixed (Chart A). Five provinces recorded increases in their unionization rate, Nova Scotia recording the largest increase. By contrast, unionization decreased in Prince Edward Island, Manitoba and Alberta.

Changes in unionization rates varied across industries. Notable declines were observed in public administration and information and cultural industries. Notable increases occurred in agriculture, and in utilities. (Chart B).

Chart B The highest unionization rates were in public sector industries

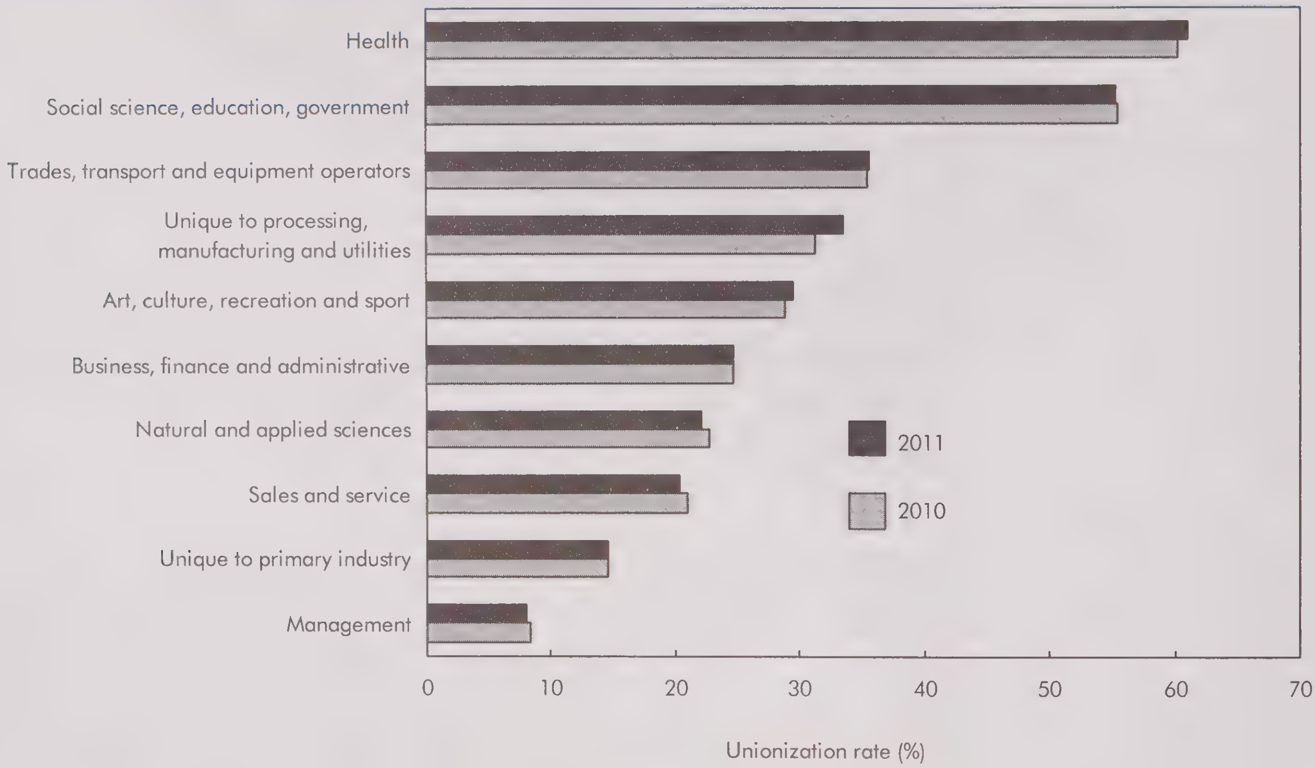


Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Changes in the unionization rate also varied across 10 major occupational groups (Chart C). Unionization declined most in sales and services, and in natural and applied sicences. Conversely, it rose notably in occupations unique to processing, manufacturing and utilities. Changes in the unionization rate were more modest among other major occupational categories.

Finally, the number of employees who were not union members but were covered by a collective agreement averaged 295,000 in the first half of 2011, an increase from last year's total of 288,000.

Chart C Unionization in community service occupations far outpaced that in others



Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Table 1 Union membership and coverage by selected characteristics

	2010			2011		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage[1]		Members	Coverage[1]
	'000	%	%	'000	%	%
Both sexes	**14,258**	**29.6**	**31.6**	**14,507**	**29.7**	**31.7**
Men	7,049	28.2	30.4	7,244	28.2	30.3
Women	7,209	30.9	32.8	7,263	31.1	33.0
Sector[2]						
Public	3,509	71.2	74.8	3,600	71.1	74.7
Private	10,749	16.0	17.5	10,907	16.0	17.5
Age						
15 to 24	2,281	14.9	16.5	2,329	14.5	16.4
25 to 54	9,920	32.0	34.1	9,963	32.1	34.3
25 to 44	6,475	30.0	32.2	6,453	30.0	32.1
45 to 54	3,445	35.8	37.8	3,510	36.1	38.3
55 and over	2,057	34.4	36.3	2,215	34.3	36.2
Education						
Less than Grade 9	277	24.0	25.3	247	23.1	24.9
Some high school	1,295	20.4	22.0	1,244	19.6	21.0
High school graduation	2,858	25.7	27.0	2,817	24.8	26.3
Some postsecondary	1,205	22.6	24.6	1,230	21.7	23.9
Postsecondary certificate or diploma	5,032	33.3	35.4	5,251	33.7	35.8
University degree	3,591	33.6	36.3	3,718	34.0	36.5
Province						
Atlantic	954	30.3	31.7	951	31.5	33.2
Newfoundland and Labrador	193	37.9	39.7	200	38.1	39.9
Prince Edward Island	58	30.7	33.0	59	30.2	33.1
Nova Scotia	388	28.4	29.6	386	30.1	31.7
New Brunswick	314	27.8	29.2	305	29.0	30.8
Quebec	3,327	36.1	39.3	3,385	36.3	39.6
Ontario	5,553	26.5	27.9	5,669	26.6	28.2
Prairies	2,587	27.1	29.6	2,672	26.5	28.4
Manitoba	524	35.9	38.1	537	35.1	36.9
Saskatchewan	422	33.8	35.9	427	33.8	35.5
Alberta	1,641	22.6	25.2	1,707	22.0	23.9
British Columbia	1,838	30.4	31.8	1,830	30.4	31.9
Work status						
Full-time	11,530	31.1	33.2	11,721	31.1	33.3
Part-time	2,728	23.5	25.0	2,785	23.6	25.1
Industry						
Goods-producing	2,962	26.5	28.6	3,062	26.9	28.7
Agriculture	100	2.7	3.2	114	4.5	4.7
Mining, quarrying, oil and gas	277	20.3	23.1	292	19.3	21.2
Utilities	146	61.6	65.5	144	63.8	66.2
Construction	801	30.3	32.0	838	30.3	31.6
Manufacturing	1,638	24.0	26.2	1,675	24.9	26.9
Service-producing	11,296	30.4	32.4	11,445	30.4	32.5
Trade	2,378	13.1	14.4	2,371	12.2	13.8
Transportation and warehousing	645	41.3	42.8	690	41.1	42.5
Finance, insurance, real estate and leasing	909	8.2	9.2	893	8.8	9.8
Professional, scientific and technical	821	4.2	5.3	825	3.9	5.0
Business, building and other support	495	14.3	16.2	512	16.0	18.2
Education	1,207	67.0	70.9	1,209	67.6	71.6
Health care and social assistance	1,778	52.9	55.3	1,831	52.7	54.7
Information and cultural	625	26.9	28.3	647	25.3	27.5
Accommodation and food	978	7.0	7.8	981	7.3	8.1
Other	524	9.8	11.0	519	9.9	11.2
Public administration	935	68.5	73.4	968	66.5	72.0

Table 1 Union membership and coverage by selected characteristics (concluded)

	2010			2011		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage[1]		Members	Coverage[1]
	'000	%	%	'000	%	%
Occupation						
Management	1,019	8.3	10.9	980	8.0	11.0
Business, finance and administrative	2,751	24.7	26.5	2,828	24.6	26.4
Professional	407	16.1	17.9	424	16.7	18.4
Financial and administrative	734	25.3	27.4	733	25.7	27.7
Clerical	1,610	26.6	28.3	1,671	26.1	27.8
Natural and applied sciences	1,098	22.8	24.9	1,097	22.1	24.1
Health	951	60.2	62.4	996	61.0	62.9
Professional	107	38.2	44.7	113	41.0	44.4
Nursing	278	78.5	80.5	290	79.1	81.0
Technical	223	59.8	61.0	253	59.3	60.9
Support staff	342	52.5	54.2	340	53.6	55.1
Social and public service	1,437	55.4	58.7	1,432	55.3	58.7
Legal, social and religious workers	714	37.1	40.0	716	34.6	37.6
Teachers and professors	724	73.5	77.2	716	76.0	79.9
Secondary and elementary	492	85.9	88.0	483	87.1	89.3
Other	232	47.1	54.3	233	53.0	60.4
Art, culture, recreation and sport	341	28.9	30.8	351	29.5	31.3
Sales and service	3,716	21.0	22.5	3,747	20.3	22.0
Wholesale	386	5.5	6.8	397	5.2	5.9
Retail	1,080	13.2	14.3	1,053	10.7	12.0
Food and beverage	527	10.1	10.8	536	9.0	9.9
Protective services	251	57.6	62.4	262	55.8	62.1
Child care and home support	200	45.4	48.4	186	47.2	48.8
Travel and accommodation	1,272	25.6	27.0	1,313	26.3	28.0
Trades, transport and equipment operators	1,968	35.4	37.4	2,058	35.5	37.4
Contractors and supervisors	138	29.0	30.9	141	29.8	32.6
Construction trades	283	35.7	37.2	284	39.0	40.6
Other trades	760	37.7	40.0	803	36.6	38.3
Transportation equipment operators	484	37.0	38.7	520	36.2	38.1
Helpers and labourers	303	29.5	32.2	311	31.1	32.8
Unique to primary industry	241	14.6	15.9	260	14.6	16.0
Unique to processing, manufacturing and utilities	736	31.3	33.2	758	33.4	35.4
Machine operators and assemblers	590	30.7	32.6	609	33.1	35.2
Labourers	146	33.6	35.3	149	34.5	36.4
Workplace size						
Under 20 employees	4,806	13.4	14.7	4,782	13.1	14.5
20 to 99 employees	4,707	29.8	32.0	4,819	30.1	32.3
100 to 500 employees	2,949	41.1	43.5	3,024	40.5	42.8
Over 500 employees	1,797	53.7	56.5	1,882	53.1	56.0
Job tenure						
1 to 12 months	2,855	16.0	18.0	3,077	15.7	17.6
Over 1 year to 5 years	4,936	24.3	26.1	4,758	24.1	25.9
Over 5 years to 9 years	2,012	31.6	33.6	2,101	32.1	34.0
Over 9 years to 14 years	1,657	36.5	38.2	1,757	38.4	40.2
Over 14 years	2,798	47.4	49.9	2,815	47.1	49.8
Job status						
Permanent	12,434	30.0	31.9	12,600	29.9	31.9
Non-permanent	1,824	27.3	29.7	1,907	28.0	30.5

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey, January-to-June averages.

2010 annual averages

Approximately 4.2 million employees (29.5%) belonged to a union in 2010 and another 293,000 (2.0%) were covered by a collective agreement (Table 2).

The public sector, which consisted of government, Crown corporations, and publicly funded schools or hospitals, had 71.4% of its employees belonging to a union. This was more than four times the rate for the private sector (16.0%).

Approximately one-third of full-time employees belonged to a union, compared with just under one-fourth of the part-time. Also, 30.0% of permanent employees were union members, compared with 26.2% of the non-permanent.

Unionization rates also varied by age group with 36.3% of those aged 45 to 54 being members of a union as compared to 14.3% of those aged 15 to 24. High unionization rates were also found among those with a university degree (33.7%) or a post-secondary certificate or diploma (33.2%); in Newfoundland and Labrador (37.3%) and in Quebec (36.0%); as well as in public administration (68.7%), educational services (66.7%), and utilities (64.7%); and health care occupations (61.3%). Low unionization rates were recorded in Alberta (22.6%); in agriculture (2.8%) and professional, scientific and technical services (4.5%); and in wholesale occupations.(5.2%).

Table 2 Union membership, 2010

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Both sexes	**14,371**	**4,240**	**29.5**
Men	7,175	2,023	28.2
Women	7,196	2,217	30.8
Sector[2]			
Public	3,511	2,507	71.4
Private	10,860	1,733	16.0
Age			
15 to 24	2,362	338	14.3
25 to 54	9,892	3,177	32.1
25 to 44	6,407	1,911	29.8
45 to 54	3,485	1,266	36.3
55 and over	2,117	725	34.2
Education			
Less than Grade 9	272	69	25.3
Some high school	1,295	263	20.3
High school graduation	2,851	721	25.3
Some postsecondary	1,219	268	21.9
Postsecondary certificate or diploma	5,127	1,704	33.2
University degree	3,607	1,216	33.7
Province			
Atlantic	959	288	30.0
Newfoundland and Labrador	197	74	37.3
Prince Edward Island	59	18	30.3
Nova Scotia	392	111	28.4
New Brunswick	312	85	27.4
Quebec	3,369	1,214	36.0
Ontario	5,593	1,481	26.5
Prairies	2,626	710	27.0
Manitoba	530	189	35.7
Saskatchewan	423	143	33.9
Alberta	1,674	377	22.6
British Columbia	1,824	547	30.0
Work status			
Full-time	11,683	3,621	31.0
Part-time	2,688	619	23.0
Industry			
Goods-producing	3,049	812	26.6
Agriculture	113	3	2.8
Mining, quarrying, oil and gas	284	57	20.2
Utilities	148	96	64.7
Construction	852	257	30.2
Manufacturing	1,652	398	24.1
Service-producing	11,322	3,428	30.3
Trade	2,391	307	12.8
Transportation and warehousing	664	275	41.4
Finance, insurance, real estate and leasing	900	76	8.4
Professional, scientific and technical	819	37	4.5
Business, building and other support	506	73	14.5
Education	1,153	769	66.7
Health care and social assistance	1,793	953	53.2
Information, culture and recreation	645	164	25.5
Accommodation and food	973	71	7.3
Other	523	46	8.9
Public administration	956	657	68.7

Differences between the sexes

For the seventh year in a row, the unionization rate for women in 2010 surpassed that of men (30.8% versus 28.2%). The gap widened slightly by 0.1 percentage points, as compared to that in 2009.

Among men, part-time employees had a much lower rate than full-time employees (18.3% versus 29.5%). Among women, the gap was narrower (25.1% versus 32.8%) (data not shown). The unionization rate for women in the public sector (73.2%) exceeded that of men (68.5%), reflecting women's presence in public administration, and in teaching and health positions. However, in the private sector, only 12.5% of women were unionized, compared with 19.0% of men. The lower rate among women reflected their predominance in sales and several service occupations.

A higher-than-average rate was recorded among men with a post-secondary certificate or diploma (33.0%). For women, the highest rate was among those with a university degree (39.5%), reflecting unionization in occupations like health care and teaching.

Among those in permanent positions, the rate for men (28.7%) was lower than that for women (31.3%). The gap was slightly more among those in non-permanent positions, (27.6% for women versus 24.8% for men).

Table 2 Union membership, 2010 (concluded)

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Occupation			
Management	1,005	86	8.6
Business, finance and administrative	2,764	685	24.8
Professional	410	69	16.9
Financial and administrative	754	191	25.4
Clerical	1,601	424	26.5
Natural and applied sciences	1,092	253	23.1
Health	956	586	61.3
Professional	104	44	42.1
Nursing	286	226	79.2
Technical	228	135	59.3
Support staff	339	181	53.3
Social and public service	1,414	777	54.9
Legal, social and religious workers	715	262	36.7
Teachers and professors	700	515	73.6
Secondary and elementary	471	404	85.9
Other	229	110	48.1
Art, culture, recreation and sport	347	97	28.1
Sales and service	3,722	762	20.5
Wholesale	386	20	5.2
Retail	1,078	141	13.1
Food and beverage	533	52	9.7
Protective services	253	145	57.4
Child care and home support	184	80	43.6
Travel and accommodation	1,288	325	25.2
Trades, transport and equipment operators	2,048	719	35.1
Contractors and supervisors	142	41	29.0
Construction trades	297	110	36.9
Other trades	781	290	37.1
Transportation equipment operators	499	182	36.4
Helpers and labourers	330	97	29.5
Unique to primary industry	274	40	14.4
Unique to processing, manufacturing and utilities	750	236	31.4
Machine operators and assemblers	608	189	31.0
Labourers	141	47	33.2
Workplace size			
Under 20 employees	4,832	645	13.3
20 to 99 employees	4,756	1,408	29.6
100 to 500 employees	2,961	1,210	40.9
Over 500 employees	1,822	977	53.6
Job tenure			
1 to 12 months	2,975	464	15.6
Over 1 year to 5 years	4,876	1,176	24.1
Over 5 years to 9 years	2,023	637	31.5
Over 9 years to 14 years	1,673	615	36.8
Over 14 years	2,824	1,347	47.7
Job status			
Permanent	12,449	3,735	30.0
Non-permanent	1,922	505	26.2

1. Excludes non-members covered by a collective agreement.
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey.

Average earnings and usual hours

Earnings are generally higher in unionized as compared to non-unionized jobs. Factors other than collective bargaining provisions contribute to this. These include varying distributions of unionized employees by age, sex, job tenure, industry, occupation, firm size, and geographical location. The effects of these factors are not examined here. However, unionized workers and jobs clearly have characteristics associated with higher earnings. For example, unionization is higher for older workers, those with more education, those with long tenure, and those in larger workplaces. Still, a wage premium exists, which, after controlling for employee and workplace characteristics, has been estimated at 7.7% (Fang and Verma 2002).

Average hourly earnings of unionized workers were higher than those of non-unionized workers in 2010 (Table 3). This held true for both full-time employees ($26.72 versus $22.71) and part-timers ($22.09 versus $14.02). Unionized part-time employees not only had higher hourly earnings, but they also worked more (19.1 hours versus 16.7). This led to a larger gap in weekly earnings ($427.26 versus $240.39).

Table 3 Average earnings and usual hours by union and job status, 2010

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
		$			hours	
Both sexes	22.53	24.04	15.96	35.1	39.2	17.3
Union member	26.04	26.72	22.09	35.6	38.4	19.1
Union coverage[1]	26.04	26.74	21.93	35.6	38.5	18.9
Not a union member[2]	20.92	22.71	14.02	34.9	39.6	16.7
Men	24.33	25.54	15.02	37.7	40.4	16.4
Union member	26.92	27.41	20.79	38.0	39.6	17.9
Union coverage[1]	26.96	27.48	20.70	38.0	39.7	17.7
Not a union member[2]	23.18	24.63	13.58	37.5	40.8	16.1
Women	20.74	22.26	16.38	32.6	37.8	17.6
Union member	25.24	25.97	22.51	33.4	37.2	19.5
Union coverage[1]	25.18	25.93	22.34	33.4	37.2	19.4
Not a union member[2]	18.59	20.30	14.23	32.2	38.1	17.0
Atlantic	19.70	20.76	14.21	36.5	40.2	17.2
Union member	24.42	24.68	22.01	37.5	39.4	20.1
Union coverage[1]	24.48	24.77	21.95	37.5	39.5	19.8
Not a union member[2]	17.49	18.71	12.31	36.0	40.6	16.6
Quebec	21.13	22.44	15.60	34.2	38.0	17.8
Union member	24.10	24.56	21.29	35.0	37.5	19.6
Union coverage[1]	23.94	24.43	20.97	35.0	37.5	19.4
Not a union member[2]	19.30	21.01	13.44	33.6	38.4	17.1
Ontario	23.22	24.96	15.64	35.1	39.3	17.0
Union member	27.49	28.51	21.34	35.7	38.6	18.3
Union coverage[1]	27.50	28.56	21.20	35.7	38.7	18.2
Not a union member[2]	21.57	23.47	14.12	34.9	39.6	16.6
Prairies	23.72	25.12	17.00	36.1	40.1	17.2
Union member	26.78	27.37	23.60	36.0	39.1	19.2
Union coverage[1]	26.98	27.59	23.55	36.1	39.2	19.2
Not a union member[2]	22.37	24.06	14.71	36.2	40.5	16.5
British Columbia	22.78	24.37	16.91	34.7	39.3	17.4
Union member	26.33	26.97	23.42	35.2	38.7	19.2
Union coverage[1]	26.45	27.12	23.38	35.2	38.7	19.1
Not a union member[2]	21.09	23.02	14.56	34.4	39.6	16.8

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).
2. Workers who are neither union members nor covered by collective agreements.
Source: Statistics Canada, Labour Force Survey.

On average, full-time unionized women earned 95% as much per hour as their male counterparts. In contrast, those working part-time earned 8% more.

Wage settlements, inflation and labour disputes

The wage rate increase in 2010 was lower as compared to that in the previous year (1.8 versus 2.4%) (Table 4). In 2010 the increase in wages was equal to the rate of inflation. For the first time in 5 years, the wage gain in the private sector exceeded that in the public sector (2.1% versus 1.6%). This trend continued in the first three months of 2011 whereby the gains stood at 2.2% in the private sector and 1.2% in the public sector.

Table 4 Major wage settlements, inflation and labour disputes

	Average annual increase in base wage rates[1]			Annual change in consumer price index[1]	Labour disputes and time lost[2]			
Year	Public sector employees[3]	Private sector employees[3]	Total employees		Strikes and lockouts[4]	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1999	1.9	2.7	2.2	1.8	412	159	2,434	0.08
2000	2.5	2.4	2.5	2.7	378	143	1,644	0.05
2001	3.4	3.0	3.3	2.5	381	221	2,203	0.07
2002	2.9	2.6	2.8	2.2	294	166	2,986	0.09
2003	2.9	1.2	2.5	2.8	266	79	1,730	0.05
2004	1.4	2.3	1.8	1.8	297	259	3,185	0.09
2005	2.3	2.5	2.3	2.2	260	199	4,148	0.11
2006	2.6	2.3	2.5	2.0	151	42	793	0.02
2007	3.4	3.3	3.3	2.2	206	66	1,771	0.05
2008	3.5	2.5	3.2	2.3	188	41	876	0.02
2009	2.5	1.8	2.4	0.3	158	67	2,169	0.06
2010	1.6	2.1	1.8	1.8	175	57	1,209	0.03
2011[5]	1.2	2.2	1.3	1.0	..	..	..	..

1. Involving 500 or more employees.
2. Involving 1 worker or more.
3. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.
4. Minimum of ten person-days not worked.
5. 2011 data refer to January to March only.

Sources: Statistics Canada, Prices Division; Human Resources and Social Development Canada, Workplace Information Directorate.

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, strike or lockout duration, and state of the economy. The number of collective agreements up for renewal in a year determines the potential for industrial disputes. Union size and strike or lockout duration determine the number of person-days lost. The state of the economy influences the likelihood of an industrial dispute, given that one is legally possible. The proportion of estimated working time lost due to strikes and lockouts decreased to 0.01% in 2011 from 0.03% in 2010.

Perspectives

Reference

Fang, Tony and Verma, Anil. 2002. "Union wage premium." *Perspectives on Labour and Income.* Vol. 3, no. 9. September. Statistics Canada Catalogue no. 75-001-X. p. 13-19. http://www.statcan.ca/english/freepub/75-001-XIE/75-001-XIE2002109.pdf (accessed September 19, 2011).

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